

DRINKING WATER SURVEILLANCE PROGRAM

AMHERSTBURG
WATER SUPPLY
SYSTEM

REPORT FOR 1991 AND 1992

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**AMHERSTBURG WATER SUPPLY SYSTEM
DRINKING WATER SURVEILLANCE PROGRAM
REPORT FOR 1991 AND 1992**

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EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

AMHERSTBURG WATER SUPPLY SYSTEM 1991 AND 1992 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario is a monitoring program providing immediate, reliable, current information on drinking water quality. The DWSP officially began in April 1986 and is designed to include all municipal supplies in Ontario. In 1991, 96 supplies and in 1992, 109 supplies were being monitored.

The Amherstburg water treatment plant is a conventional treatment plant which treats water from the Detroit River. The process consists of coagulation, flocculation, clarification (upflow clarifier), filtration and disinfection. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature is above 12°C. Powder activated carbon is added for taste and odour control. This plant has a rated capacity of 9.0 x 1000 m³/day. The Amherstburg water supply system serves a population of approximately 16,000.

Water at the plant and at five locations in the distribution system was sampled for the presence of approximately 180 parameters. Parameters were divided into the following groups: bacteriological, inorganic and physical (laboratory chemistry, field chemistry and metals), organic (chloroaromatics, chlorophenols, pesticides and PCB, phenolics, polyaromatic hydrocarbons and volatiles) and radiological (radionuclides). Most laboratory analyses were conducted at the Ministry of the Environment and Energy facilities in Rexdale, Ontario. Radionuclides were analyzed by the Ministry of Labour.

Table A is a summary of all results by group.

No known health related guidelines were exceeded.

The Amherstburg water supply system, for the sample years of 1991 and 1992, produced good quality water and this was maintained in the distribution system.

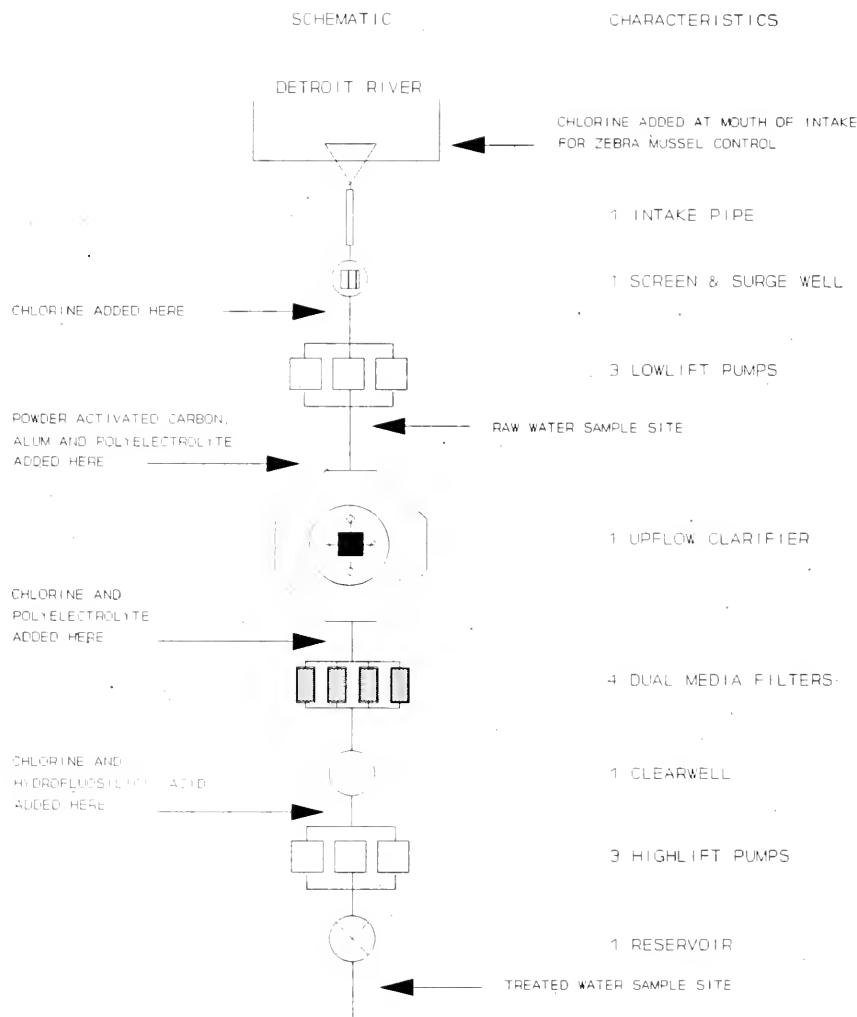
TABLE A
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

SUMMARY TABLE BY SCAN

A POSITIVE VALUE DENOTES THAT THE RESULT IS GREATER THAN THE STATISTICAL LIMIT OF DETECTION AND IS QUANTIFIABLE
A '-' INDICATES THAT NO SAMPLE WAS TAKEN

SITE	SCAN	RAW TESTS		TREATED TESTS		DALHOUSIE SITE TESTS		FORT ST. TESTS		POSITIVE %POSITIVE	
		POSITIVE	%POSITIVE	POSITIVE	%POSITIVE	POSITIVE	%POSITIVE	POSITIVE	%POSITIVE	POSITIVE	%POSITIVE
BACTERIOLOGICAL	36	33	91	10	1	10	2	0	0	1	0
CHEMISTRY (FIELD)	36	34	94	72	72	100	24	100	12	12	100
CHEMISTRY (LABORATORY)	280	257	91	281	198	70	83	72	86	42	37
METALS	288	114	39	288	87	30	92	46	50	46	20
CHLOROPHOROMICS	140	0	0	126	0	0	14	0	0	14	0
CHLOROPHENOLS	18	0	0	18	0	0	-	-	-	-	-
PESTICIDES AND PCB	331	0	0	315	0	0	22	0	0	21	0
PHENOLICS	12	0	0	12	1	8	-	-	-	-	-
POLYAROMATIC HYDROCARBONS	68	0	0	51	0	0	17	0	0	-	-
SPECIFIC PESTICIDES	80	0	0	80	0	0	1	0	0	-	-
VOLATILES	358	0	0	358	48	13	58	8	13	31	4
RADIOMONUCLOIDES	28	8	28	28	6	21	-	-	-	-	-
TOTAL	1,675	446	1,639	413	-	313	150	-	167	73	-

FIGURE 1
AMHERSTBURG WATER TREATMENT PLANT



DRINKING WATER SURVEILLANCE PROGRAM

AMHERSTBURG WATER SUPPLY SYSTEM 1991 AND 1992 REPORT

INTRODUCTION

The Drinking Water Surveillance Program (DWSP) for Ontario is a monitoring program providing immediate, reliable, current information on drinking water quality. The DWSP officially began in April 1986 and is designed to include all municipal supplies in Ontario. In 1991, 96 supplies and in 1992, 109 supplies were being monitored.

Appendix A has a full description of the DWSP.

The DWSP was initiated for the Amherstburg water supply system in the spring of 1985 as part of a study on the St.Clair/Detroit River area. Previous annual reports have been published for 1986, 1987, 1988, 1989 and 1990.

PLANT DESCRIPTION

The Amherstburg water treatment plant is a conventional treatment plant which treats water from the Detroit River. The process consists of coagulation, flocculation, clarification (upflow clarifier), filtration and disinfection. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature is above 12°C. Powder activated carbon is added for taste and odour control. This plant has a rated capacity of 9.0 x 1000 m³/day. The Amherstburg water supply system serves a population of approximately 16,000.

The sample day flows ranged from 6.3 x 1000 m³/day to 13.1 x 1000 m³/day.

General plant information is presented in Table 1 and a schematic of plant processes, chemical addition points and sampling locations in Figure 1.

SAMPLING AND ANALYSES

Stringent DWSP sampling protocols were followed to ensure that all samples were collected in a uniform manner (see Appendix B).

Sample lines in the plant were flushed prior to sampling to ensure that the water obtained was indicative of its origin and not residual water standing in the sample line.

Attempts were made to capture the same block of water at each sampling point by taking the retention time into consideration. Retention time was calculated by dividing the volume of water between two sampling points by sample day flow. For example, if it was determined that retention time within the plant was five hours, then there would be a five hour interval between the raw and treated sampling. Similarly, if it was estimated that it took approximately one day for the water to travel from the plant to the distribution system site, this site would be sampled one day after the treated water from the plant.

To obtain a representative raw water sample, free from any added chemicals, at plants which used chlorine for zebra mussel control, the operator was required to turn off the chlorine feed to the mouth of the intake and allow enough time for the chlorinated water to clear from the intake works.

Plant operating personnel routinely analyzed parameters for process control (Table 2).

At all distribution system locations, two types of samples were obtained, a standing and a free flow. The standing sample consisted of water that had been in the household plumbing and service connection for a minimum of six hours. These samples were used to make an assessment of the change in the levels of inorganic compounds and metals due to leaching from, or deposition on, the plumbing system. The only analyses carried out on the standing samples, therefore, were laboratory chemistry and metals. The free flow sample represented fresh water from the distribution system main, since the sample tap was flushed for five minutes prior to sampling.

Water at the plant and at five locations in the distribution system was sampled for the presence of approximately 180 parameters. Parameters were divided into the following groups: bacteriological, inorganic and physical (laboratory chemistry, field chemistry and metals), organic (chloroaromatics, chlorophenols, pesticides and PCB, phenolics, polycyclic aromatic hydrocarbons and volatiles) and radiological (radionuclides). Most laboratory analyses were conducted at the Ministry of the Environment and Energy facilities in Rexdale, Ontario. Radionuclides were analyzed by the Ministry of Labour.

RESULTS

Field measurements were recorded on the day of sampling and were entered onto the DWSP database as submitted by plant personnel.

Table 3 contains information on delay time between the raw and treated water sampling, flow rate, and treatment chemical dosages.

Table 4 is a summary of all results by parameter and by water type. If a parameter was not detected, the total number of negative sample results is given. In contrast, if a parameter was detected at any location, the detailed results for all samples are provided.

Positive denotes that the result is greater than the statistical limit of detection established by the Ministry of the Environment and Energy laboratory staff and is quantifiable. Trace ($<T$) denotes that the level measured is greater than the lowest value detectable by the method but lies so close to the detection limit that it cannot be confidently quantified.

Table 5 lists all parameters analyzed in the DWSP.

Associated guidelines and detection limits are also supplied on Tables 4 and 5. Parameters are listed alphabetically within each scan.

DISCUSSION

GENERAL

Water quality was judged by comparison with the Ontario Drinking Water Objectives publication (ODWOS). These objectives are applied to free flowing water. When an Ontario Drinking Water Objective (ODWO) was not available, guidelines/limits from other agencies were used. These guidelines were obtained from the Parameter Listing System database.

The guidelines are evaluated on the results from the free flowing samples. Standing samples in the distribution system can show elevated concentrations in certain metals if the water is corrosive or if the standing time is excessive. Flushing the tap until the water achieves the coolest temperature will ensure that the water used for consumption will contain minimum concentrations of metals.

IN THIS REPORT, DISCUSSION IS LIMITED TO:

- THE TREATED AND DISTRIBUTED WATER;**
- ONLY THOSE PARAMETERS WITH CONCENTRATIONS ABOVE
GUIDELINE VALUES; AND**
- POSITIVE ORGANIC PARAMETERS DETECTED.**

BACTERIOLOGICAL

Guidelines for bacteriological sampling and testing of a supply are developed to maintain a proper supervision of its bacteriological quality. Routine monitoring programs usually require that multiple samples be collected in a given system. Full interpretation of bacteriological quality cannot be made on the basis of single samples. Standard plate count was the only bacteriological analysis conducted on the treated and distributed water.

Standard plate count is a test used to supplement routine analysis for coliform bacteria. The limit for standard plate count (at 35°C after 48 hours) in the ODWOS is 500 counts/mL (based on a geometric mean of 5 or more samples). DWSP bacteriological analysis of treated and distributed water was limited to standard plate count.

Standard plate count (membrane filtration) exceeded the ODWO Aesthetic Objective of 500 counts/mL in 1 of 20 treated and distributed water samples with a maximum reported value of >2,400 counts/mL.

INORGANIC & PHYSICAL

CHEMISTRY (FIELD)

It is desirable that the temperature of drinking water be less than 15°C. The palatability of water is enhanced by its coolness. A temperature below 15°C will tend to reduce the growth of nuisance organisms and hence minimize associated taste, colour, odour and corrosion problems. The temperature of delivered water may increase in the distribution system due to the warming effect of soil in late summer and fall and/or as a result of higher temperatures in the source water.

Field temperature exceeded the ODWO Aesthetic Objective of 15°C in 11 of 23 treated and distributed water samples with a maximum reported value of 24.0°C.

CHEMISTRY (LABORATORY)

The ODWOS indicate that a hardness level of between 80 and 100 mg/L as calcium carbonate for domestic waters provides an acceptable balance between corrosion and encrustation. Water supplies with a hardness greater than 200 mg/L are considered poor and possess a tendency to form scale deposits and result in excessive soap consumption.

Hardness exceeded the ODWO Recommended Operational Guideline of 80-100 mg/L in all 25 treated and distributed water samples with a maximum reported value of 161.0 mg/L.

METALS

At present, there is no evidence that aluminum is physiologically harmful and no health limit for drinking water has been specified. The measure of aluminum in treated water is important to measure the efficiency of the treatment process. The ODWOS indicate that a useful guideline is to maintain a residual below 100 ug/L as aluminum in the water leaving the plant to avoid problems in the distribution system.

Aluminum exceeded the ODWO Recommended Operational Guideline of 100 ug/L in 1 of 24 treated and distributed water samples with a maximum reported value of 130.0 ug/L.

ORGANIC

CHLOROAROMATICS

The results of the chloroaromatic scan showed that none were detected above trace levels.

CHLOROPHENOLS

The results of the chlorophenol scan showed that none were detected.

PESTICIDES AND PCB

The results of the pesticide and PCB scan showed that none were detected above trace levels.

PHENOLICS

Phenolic compounds are present in the aquatic environment as a result of natural and/or industrial processes. The ODWOS have been revised to replace the aesthetic phenolic objective with objectives for specific phenols.

Phenolics were found at a positive level in 1 of the 12 treated and distributed water samples analyzed. The maximum observed level was 1.2 ug/L.

POLYAROMATIC HYDROCARBONS

The results of the polyaromatic hydrocarbon scan showed that none were detected.

SPECIFIC PESTICIDES

The results of the specific pesticide scan showed that none were detected.

VOLATILES

The detection of benzene, ethylbenzene, toluene and xylenes at low, trace levels may be a laboratory artifact derived from the analytical methodology. Trace levels of styrene are considered to be laboratory artifacts resulting from the sample shipping containers.

Trihalomethanes (THMs) are produced during the water treatment process and will always occur in chlorinated waters. THMs are comprised of chloroform, chlorodibromomethane and dichlorobromomethane. Bromoform occurs occasionally. Results are reported for the individual compounds as well as for total THMs. Only total THM results are discussed. Starting in 1991, samples from the distribution system were quenched with sodium thiosulphate to stop the further production of THMs in the sample bottle. This provided a more representative estimation of the THMs consumed in tap water.

Total trihalomethanes were found at positive levels in all 25 treated and distributed water samples analyzed with a maximum level of 47.2 ug/L. This was below the ODWO Maximum Acceptable Concentration of 350 ug/L.

RADIOLOGICAL

RADIONUCLIDES

There are more than 200 radionuclides, some of which occur naturally and others which originate from the activities of society. The radionuclides currently of greater interest from a health view-point are tritium, strontium-90, iodine-131, cesium-137 and radium-226. The gross beta and gross alpha determinations are suitable for preliminary screening except for tritium which must be measured separately. Radionuclides are measured in becquerels per litre (Bq/L). No results were above the available guidelines.

CONCLUSIONS

No known health related guidelines were exceeded.

The Amherstburg water supply system, for the sample years of 1991 and 1992, produced good quality water and this was maintained in the distribution system.

FIGURE 1

AMHERSTBURG WATER TREATMENT PLANT

SCHEMATIC

CHARACTERISTICS

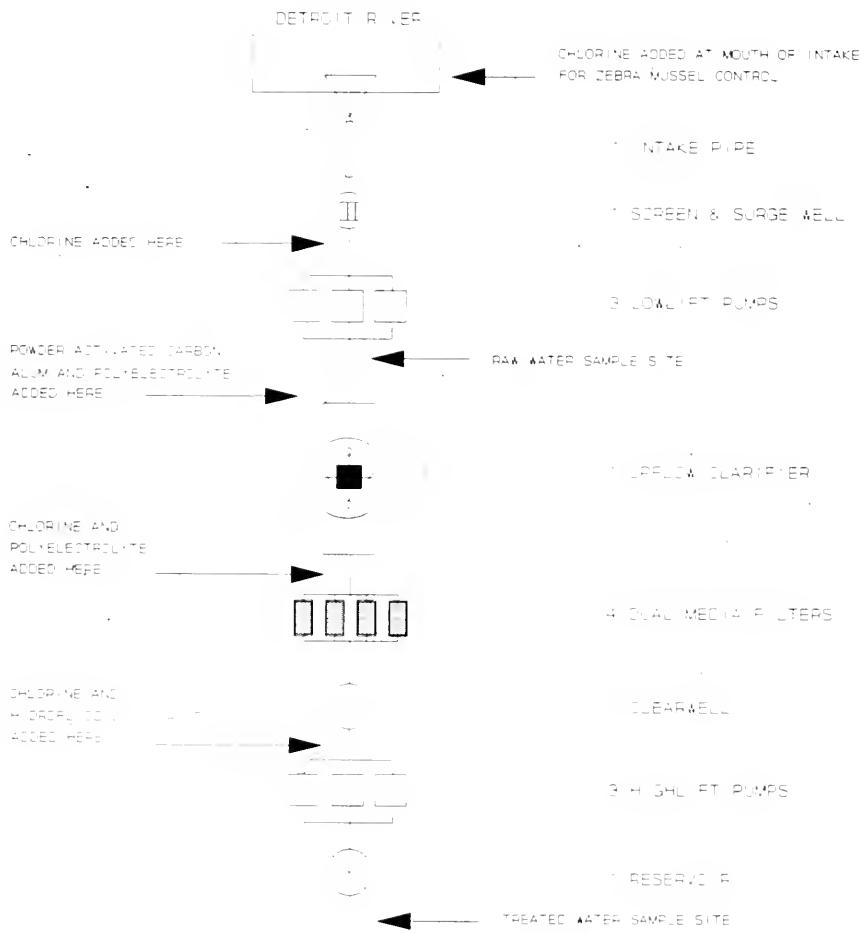


TABLE 1
DRINKING WATER SURVEILLANCE PROGRAM
PLANT GENERAL REPORT

PLANT NAME: AMHERSTBURG WSS
WORKS #: 210000149
UTM #: 173253004665675

DISTRICT: WINDSOR
REGION: SOUTHWEST
DISTRICT OFFICER: J. DRUMMOND

SUPERINTENDENT: LOUIS SINGER

ADDRESS: 415 FRONT RD. N.
AMHERSTBURG, ONTARIO
N9V 2V5
519-736-5447

MUNICIPALITY: AMHERSTBURG
AUTHORITY: PROVINCIAL

PLANT INFORMATION

PLANT VOLUME: 18.387 (X 1000 M3)
DESIGN CAPACITY: 18.180 (X 1000 M3/DAY)
RATED CAPACITY: 9.000 (X 1000 M3/DAY)

MUNICIPALITY	POPULATION
AMHERSTBURG	8,385
ANDERDON TWP	3,822
COLCHESTER TWP	1,944
MALDEN TWP	1,800

TABLE 2
DRINKING WATER SURVEILLANCE PROGRAM
IN-PLANT MONITORING

PARAMETER	LOCATION	FREQUENCY
ALUMINUM	FILTERED	EVERY 2 WEEKS
COMBINED CHLORINE RESIDUAL	FILTERED TREATED	DAILY READING DAILY READING
FREE CHLORINE RESIDUAL	FILTERED TREATED	EVERY 4 HOURS DAILY READING
TOTAL CHLORINE RESIDUAL	FILTERED TREATED	DAILY READING DAILY READING
FLUORIDE	TREATED	EVERY 6 HOURS
PH	RAW TREATED	DAILY READING DAILY READING
TEMPERATURE	RAW TREATED	DAILY READING DAILY READING
TURBIDITY	RAW CLARIFIED FILTERED TREATED	EVERY 4 HOURS EVERY 4 HOURS EVERY 4 HOURS EVERY 4 HOURS

TABLE 3
DRINKING WATER SURVEILLANCE PROGRAM AMHERSTBURG WSS SAMPLE DAY CONDITIONS
AND TREATMENT CHEMICAL DOSAGES FOR 1991 AND 1992

DATE	DELAY *	FLOW (1000M ³)	PRE CHLORINATION CHLORINE	COAGULATION ALUM LIQUID	COAGULATION AID POLYELECTROLYTE	TASTE & ODOR ACTIVATED CARBON POWDER	FILTER AID POLYELECTROLYTE	POST CHLORINATION CHLORINE	FLUORIDATION HYDROFLUOSILICIC ACID
91 JAN 23	48.00	6.640	2.20		45.50	.18	6.13	.05	.35
91 MAR 20	48.00	6.640	2.50		68.48	.18	5.98	.05	.35
91 MAY 23	48.00	9.860	3.24		36.68	.38	4.24	.03	.56
91 JUL 17	48.00	13.180	2.76		40.50	.26	18.60	.03	.58
91 SEP 18	48.00	8.270	3.40		33.30	.43	30.50	.04	.44
91 NOV 20	48.00	6.360	1.60		47.30	.52	12.50	.05	.44
92 JAN 22	48.00	6.320	2.47		37.10	.26	7.30	.05	.56
92 MAR 18	48.00	6.460	1.83		77.55	.26	7.10	.05	.56
92 MAY 21	48.00	8.560	1.73		41.40	.38	5.30	.04	.48
92 JUL 21	48.00	7.050	1.38		59.50	.45	6.50	.05	.43
92 SEP 24	48.00	7.140	4.73		89.30	.45	6.40	.04	.51
92 NOV 18	48.00	6.860	11.00		53.50	.47	6.60	.05	.51
								.38	.93

* THE DELAY TIME BETWEEN THE RAW AND TREATED WATER SAMPLING, SHOULD ESTIMATE THE RETENTION TIME.

KEY TO TABLE 4 and 5

- A ONTARIO DRINKING WATER OBJECTIVES (ODWO)
 - 1. Maximum Acceptable Concentration (MAC)
 - 1+. MAC for Total Trihalomethanes
 - 2. Interim Maximum Acceptable Concentration (IMAC)
 - 3. Aesthetic Objective (AO)
 - 3*. AO for Total Xylenes
 - 4. Recommended Operational Guideline
 - 5. Health Related Guidance Value
- B HEALTH & WELFARE CANADA (H&W)
 - 1. Maximum Acceptable Concentration (MAC)
 - 2. Proposed MAC
 - 3. Interim MAC
 - 4. Aesthetic Objective (AO)
- C WORLD HEALTH ORGANIZATION (WHO)
 - 1. Guideline Value (GV)
 - 2. Tentative GV
 - 3. Aesthetic GV
- D US ENVIRONMENTAL PROTECTION AGENCY (EPA)
 - 1. Maximum Contaminant Level (MCL)
 - 2. Suggested No-Adverse Effect Level (SNAEL)
 - 3. Lifetime Health Advisory
 - 4. EPA Ambient Water Quality Criteria
- F EUROPEAN ECONOMIC COMMUNITY (EEC)
 - 1. Health Related Guideline Level
 - 2. Aesthetic Guideline Level
 - 3. Maximum Admissible Concentration (MADC)
- G CALIFORNIA STATE DEPARTMENT OF HEALTH-GUIDELINE VALUE
- I NEW YORK STATE AMBIENT WATER GUIDELINE
- N/A NONE AVAILABLE

LABORATORY RESULTS, REMARK DESCRIPTIONS

No Sample Taken
BDL Below Minimum Measurement Amount
<T Greater Than Detection Limit But Not Confident
(SEE INTERPRETATION OF RESULTS ABOVE)
> Results Are Greater Than The Upper Limit
<=> Approximate Result
!48 No Data: Sample Age Exceeded 48 Hours
!AR No Data: No Numeric Results
!AW No Data: Analysis Withdrawn
!BT No Data: Sample Broken In Transit
!CS No Data: Contamination Suspected
!EF No Data: Laboratory Equipment Failure
!IR No Data: Insufficient Sample
!IS No Data: Insufficient Sample
!LA No Data: Laboratory Accident
!NP No Data: No Procedure
!NR No Data: Sample Not Received
!OP No Data: Obscured Plate
!PE No Data: Procedure Error: Sample Discarded
!PR No Data: Preservative Required
!QU No Data: Quality Control Unacceptable
!RE No Data: Received Empty
!RO No Data: No Numeric Results
!SM No Data: Sample Missing
!SS No Data: Sample Improperly Preserved
!U No Data: Sample Unsuitable For Analysis
!UB No Data: Bottle Broken
!UN No Data: Result Unreliable

!UR No Data: Unpreserved Sample Required
A Approximate Value
A3C Approximate, Total Count Exceeded 300 Colonies
A> Approximate Value, Exceeded Normal Range
APS Additional Peak, Less Than, Not Priority Pollutant
ARO Additional Information In Laboratory Report
CRO Calculated Result Only
NAF Not All Required Tests Found
RID Ioncal Calculated on Incomplete Data Set
RMP P and M-Xylene Not Separated
RRR Result Obtained by Repeat Analysis
RRV Rerun Verification
SFA Sample Filtered: Filtrate Analyzed
SIL Sample Incorrectly Labelled
SPS Several Peaks, Small, Not Priority Pollutant
U48 Unreliable: Sample Age Exceeded 48 Hours
UAL Unreliable: Sample Age Exceeded Limit
UAU Unreliable: Sample Age Unknown
UCS Unreliable: Contamination Suspected
WSD Wrong Sample Description On Bottle

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

TREATMENT PLANT RAW	TREATMENT PLANT TREATED	DIST. SYSTEM DAHOUISLE ST FREE FLOW	DIST. SYSTEM DAHOUISLE ST FREE FLOW	DIST. SYSTEM FORT ST FREE FLOW	DIST. SYSTEM FORT ST FREE FLOW	DIST. SYSTEM MEDITERRANEAN FREE FLOW	DIST. SYSTEM MEDITERRANEAN FREE FLOW
						GUIDELINE = 0 (A1)	GUIDELINE = 0 (A1)
1991 JAN	500						
1991 MAR	520						
1991 MAY	50 <=>						
1991 JUL	28						
1991 SEP	72						
1991 NOV	600						
1992 JAN	370						
1992 MAR	540						
1992 MAY	70 <=>						
1992 JUL	70 <=>						
1992 SEP	596						
1992 NOV	1160						
STANDARD PLATE CNT MF (CT/ML)							
1991 JAN		1 <=>	1 <=>				
1991 MAR		1 <=>	1 <=>				
1991 MAY		8 <=>	8 <=>				
1991 JUL		10	0 <=>				
1991 NOV		3 <=>	3 <=>				
1992 JAN		2 <=>	2 <=>				
1992 MAR		1 <=>	1 <=>				
1992 JUL		5 <=>	5 <=>				
1992 SEP		4 <=>	4 <=>				
1992 NOV		2 <=>	2 <=>				
TOTAL COLIFORM MF (CT/100ML)							
1991 JAN	6300 A3C						
1991 MAR	5200 A3C						
1991 MAY	1200 A3C						
1991 JUL	220 A3C						
1991 SEP		1000					
1991 NOV		10600 A3C					
1992 JAN		31000 A3C					
1992 MAR		3600 A3C					
1992 MAY		1800 A3C					
1992 JUL		1600 A3C					
1992 SEP		7300 A3C					
1992 NOV		14200 A3C					

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

STANDARD PLATE CNT MF (CFU/ML)	BACTERIOLOGICAL	DET N LIMIT = 0	GUIDELINE = 500 (A3)	
			DIST. SYSTEM RICHMOND ST FREE FLOW	DIST. SYSTEM VENATOR AVE STANDING
1991 JAN	2 <=>	4 <=>	.	.
1991 MAR	2 <=>	.	.	.
1991 MAY	47	.	.	.
1991 JUL	.	.	.	.
1991 SEP	2400 >	350	.	.
1992 JAN	2 <=>	.	.	.
1992 MAY	.	7 <=>	.	.
1992 SEP	.	5 <=>	.	.

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

TREATMENT PLANT RAW	TREATMENT PLANT TREATED	DIST. SYSTEM		DIST. SYSTEM		DIST. SYSTEM	
		DALHOUSIE ST FREE FLOW	STANDING	FORT ST FREE FLOW	STANDING	FORT ST FREE FLOW	STANDING
BACTERIOLOGICAL							
T COLIFORM	BACKGRD MF (CT/100ML)			DET/N LIMIT = 0			GUIDELINE = N/A
1991 JAN	00000 A3C						
1991 MAR	42000 A3C						
1991 MAY	18000						
1991 JUL	16400 A3C						
1991 SEP	19000						
1991 NOV	10000 A3C						
1992 JAN	70000 A3C						
1992 MAR	34000 A3C						
1992 MAY	23000						
1992 JUL	55000 A3C						
1992 SEP	40000 >						
1992 NOV	40000 >						

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

CHEMISTRY (FIELD)		DET/N LIMIT = 0		GUIDELINE = N/A	
FLD CHLORINE (COMB) (MG/L)					
1991 JAN		.320	.200		
1991 MAR		.300			
1991 MAY		.280			
1991 JUL		.320	.200		
1991 SEP		.180			
1991 NOV		.250			
1992 JAN		.330			
1992 MAR		.300			
1992 MAY		.190			
1992 JUL		.240			
1992 SEP		.260			
1992 NOV		.190			
FLD CHLORINE FREE (MG/L)					
1991 JAN		.830	.500		
1991 MAR		.850			
1991 MAY		.810			
1991 JUL		.760	.100		
1991 SEP		.810			
1991 NOV		.850			
1992 JAN		.820			
1992 MAR		.780			
1992 MAY		.800			
1992 JUL		.850			
1992 SEP		.850			
1992 NOV		.820			
FLD CHLORINE (TOTAL) (MG/L)					
1991 JAN		1.150	.700		
1991 MAR		1.150			
1991 MAY		1.090			
1991 JUL		1.080	.300		
1991 SEP		.990			
1991 NOV		1.100			
1992 JAN		1.150			
1992 MAR		1.080			
1992 MAY		.990			
1992 JUL		1.090			
1992 SEP		1.110			
1992 NOV		1.010			

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

DIST. SYSTEM RICHMOND ST FREE FLOW		DIST. SYSTEM RICHMOND ST STANDING		DIST. SYSTEM VENNOR AVE FREE FLOW		DIST. SYSTEM VENNOR AVE STANDING	
FLD CHLORINE (COMB) (MG/L)	CHEMISTRY (FIELD)	DET'N LIMIT	0	DET'N LIMIT	0	DET'N LIMIT	0
1991 JAN	.	.	.	.	.	.	.
1991 MAR	.200	.400	.300	.	.	.300	.
1991 MAY	.400	.300	.	.	.	.	.
1991 JUL	.	.	.	.	.	.150	.
1991 SEP	.210	.020	.	.	.	.050	.
1992 JAN	.100	.150	.	.	.	.	.
1992 MAY	.	.	.	.	.	.100	.
1992 SEP	.	.	.	.	.	.200	.
FLD CHLORINE FREE (MG/L)	)	DET'N LIMIT	0	DET'N LIMIT	0	DET'N LIMIT	0
1991 JAN	.	.	.	.	.	.	.
1991 MAR	.700	.300	.400	.	.	.300	.
1991 MAY	.500	.400	.	.	.	.	.
1991 JUL	.	.	.	.	.	.150	.
1991 SEP	.490	.020	.	.	.	.100	.
1992 JAN	.700	.150	.	.	.	.	.
1992 MAY	.	.	.	.	.	.900	.
1992 SEP	.	.	.	.	.	.300	.
FLD CHLORINE (TOTAL) (MG/L)	)	DET'N LIMIT	0	DET'N LIMIT	0	DET'N LIMIT	0
1991 JAN	.	.	.	.	.	.	.
1991 MAR	.900	.700	.700	.	.	.600	.
1991 MAY	.900	.700	.	.	.	.	.
1991 JUL	.	.	.	.	.	.300	.
1991 SEP	.700	.040	.	.	.	.150	.
1992 JAN	.800	.300	.	.	.	.	.
1992 MAY	.	.	.	.	.	1.000	.
1992 SEP	.	.	.	.	.	.500	.

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

TREATMENT PLANT RAW	TREATMENT PLANT TREATED	DIST. SYSTEM DALHOUSIE ST. FREE FLOW	DIST. SYSTEM DALHOUSIE ST. STANDING	DIST. SYSTEM FORT ST FREE FLOW		DIST. SYSTEM FORT ST STANDING	DIST. SYSTEM MEDITERRANEAN FREE FLOW	DIST. SYSTEM MEDITERRANEAN STANDING
				DET'N LIMIT = N/A	GUIDELINE = 6.5-8.5 (A4)			
CHEMISTRY (FIELD)								
FLD PH (OMNSLESS)								
1991 JAN	8.100	7.000	7.200	7.200				
1991 MAR	8.200	7.100						
1991 MAY	8.100	6.900	7.200	7.400				
1991 JUL	8.200	7.000	7.200					
1991 SEP	8.100	7.100						
1991 NOV	8.100	6.900						
1992 JAN	8.000	7.000						
1992 MAR	8.000	6.800						
1992 MAY	8.100	7.000						
1992 JUL	8.100	7.000						
1992 SEP	8.200	7.000						
1992 NOV	8.200	6.900						
FLD TEMPERATURE (DEG.C)								
1991 JAN	.000	2.000	3.000	7.000				
1991 MAR	2.000	5.000						
1991 MAY	15.000	16.000						
1991 JUL	24.000	24.000	23.000	24.000				
1991 SEP	21.000	22.000						
1991 NOV	5.000	8.000						
1992 JAN	.000	2.000						
1992 MAR	.500	3.000						
1992 MAY	15.000	17.000						
1992 JUL	20.000	22.000						
1992 SEP	19.000	19.000						
1992 NOV	5.000	7.000						
FLD TURBIDITY (FTU)								
1991 JAN	17.000	.060	.190	2.200				
1991 MAR	16.800	.050						
1991 MAY	32.400	.030						
1991 JUL	10.900	.030	.120	1.800				
1991 SEP	10.900	.090						
1991 NOV	5.450	.040						
1992 JAN	9.000	.060						
1992 MAR	37.200	.050						
1992 MAY	16.800	.080						
1992 JUL	11.800	.080						
1992 SEP	51.500	.120						
1992 NOV	58.400	.070						
FLD TURBIDITY (FTU)								
1991 JAN	17.000	.060	.190	2.200				
1991 MAR	16.800	.050						
1991 MAY	32.400	.030						
1991 JUL	10.900	.030	.120	1.800				
1991 SEP	10.900	.090						
1991 NOV	5.450	.040						
1992 JAN	9.000	.060						
1992 MAR	37.200	.050						
1992 MAY	16.800	.080						
1992 JUL	11.800	.080						
1992 SEP	51.500	.120						
1992 NOV	58.400	.070						

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

FLD PH (OMNSLESS)	CHEMISTRY (FIELD)		DET/N LIMIT = N/A	GUIDELINE = 6.5-8.5 (A4)
	DIST. SYSTEM RICHMOND ST STANDING FREE FLOW	DIST. SYSTEM VENTNOR AVE FREE FLOW		
1991 JAN	7.400	7.200	7.200	7.000
1991 MAR	7.200	7.100	.	.
1991 MAY	.	.	7.300	7.100
1991 JUL	.	.	.	.
1991 SEP	7.500	7.400	.	.
1992 JAN	7.200	7.200	.	.
1992 MAY	.	.	7.400	7.400
1992 SEP	.	.	7.000	7.000
FLD TEMPERATURE (DEG.C)			DET/N LIMIT = N/A	GUIDELINE = 15 (A3)
	DIST. SYSTEM RICHMOND ST STANDING FREE FLOW	DIST. SYSTEM VENTNOR AVE FREE FLOW		
1991 JAN	6.000	15.000	3.000	4.000
1991 MAR	.	.	23.000	24.000
1991 JUL	.	.	.	.
1992 JAN	2.000	2.000	17.000	17.000
1992 MAY	.	.	19.000	19.000
1992 SEP	.	.	.	.
FLD TURBIDITY (FTU)			DET/N LIMIT = N/A	GUIDELINE = 1.0 (A1)
	DIST. SYSTEM RICHMOND ST STANDING FREE FLOW	DIST. SYSTEM VENTNOR AVE FREE FLOW		
1991 JAN	.	.	.160	.570
1991 MAR	.070	.260	.	.
1991 MAY	.090	.240	.	.
1991 JUL	.	.	.060	.190
1991 SEP	.100	.300	.	.
1992 JAN	.200	.560	.	.
1992 MAY	.	.	.240	.410
1992 SEP	.	.	.210	.220

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

TREATMENT PLANT RAW	TREATMENT PLANT TREATED	DIST. SYSTEM DALHOUSIE ST FREE FLOW	DIST. SYSTEM DALHOUSIE ST STANDING	DIST. SYSTEM FOR 1 ST FREE FLOW	DIST. SYSTEM FOR 1 ST STANDING	DIST. SYSTEM MEDITERRANEAN FREE FLOW	DIST. SYSTEM MEDITERRANEAN STANDING
1991 JAN	104,200	81,200	83,400	84,100			
1991 MAR	116,600	92,500					
1991 MAY	99,500	83,400					
1991 JUL	86,600	67,100	68,700	68,800			
1991 SEP	85,700	76,100					
1991 NOV	86,600	70,400					
1992 JAN	89,100	75,900					
1992 MAR	104,200	81,500					
1992 MAY	89,800	75,800					
1992 JUL	86,200	64,400					
1992 SEP	91,900	66,300					
1992 NOV	90,800	66,300					
			DET'N LIMIT = 0.20	GUIDELINE = 100 (F2)			
1991 JAN	40,800	37,000	37,500	38,100			
1991 MAR	45,000	46,200					
1991 MAY	36,800	37,600					
1991 JUL	30,400	30,800	31,400	31,400			
1991 SEP	29,400	30,000					
1991 NOV	28,800	29,100					
1992 JAN	32,400	33,900					
1992 MAR	41,700	44,700					
1992 MAY	30,200	31,200					
1992 JUL	28,850	28,250					
1992 SEP	31,950	29,900					
1992 NOV	31,800	31,500					
			DET'N LIMIT = 0.001	GUIDELINE = 0.2 (A1)			
16 SAMPLES	BOL	BOL					

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

DIST. SYSTEM RICHMOND ST FREE FLOW	DIST. SYSTEM RICHMOND ST STANDING	DIST. SYSTEM VENTNOR AVE FREE FLOW	DIST. SYSTEM VENTNOR AVE STANDING	CHEMISTRY (LABORATORY)		GUIDELINE = 30-500 (A4)
				ALKALINITY (MG/L)	DET'N LIMIT = 0.2	
1991 JAN	.	.	.	88,500	88,500	90,800
1991 MAR	99,000	97,300	.	.	.	.
1991 MAY	83,500	81,800	.	.	.	.
1991 JUL	.	.	70,500	70,500	71,100	.
1991 SEP	76,100	75,600	.	.	.	.
1992 JAN	76,800	76,900	.	79,600	79,600	83,800
1992 MAY	.	.	.	68,900	68,900	70,300
1992 SEP	.	.	.	.	.	.
				DET'N LIMIT = 0.20	.	GUIDELINE = 100 (F2)
DIST. SYSTEM RICHMOND ST FREE FLOW	DIST. SYSTEM RICHMOND ST STANDING	DIST. SYSTEM VENTNOR AVE FREE FLOW	DIST. SYSTEM VENTNOR AVE STANDING	CHEMISTRY (LABORATORY)		GUIDELINE = 100 (F2)
				CALCIUM (MG/L)	DET'N LIMIT = 0.20	
1991 JAN	.	.	.	42,600	42,600	41,600
1991 MAR	47,600	47,400	.	.	.	.
1991 MAY	38,400	36,000	.	.	.	.
1991 JUL	.	.	33,000	33,000	32,200	.
1991 SEP	31,000	30,000	.	.	.	.
1992 JAN	33,700	33,800	.	32,900	32,900	34,800
1992 MAY	.	.	.	32,350	32,350	31,950
1992 SEP	.	.	.	.	.	.

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

TREATMENT PLANT RAW	TREATMENT PLANT TREATED	DIST. SYSTEM DALHOUSIE ST FREE FLOW	DIST. SYSTEM DALHOUSIE ST FREE FLOW	CHEMISTRY (LABORATORY)		DET'N LIMIT = 0.20	GUIDELINE = 250 (A3)	DIST. SYSTEM FOR ST FREE FLOW	DIST. SYSTEM FOR ST FREE FLOW	DIST. SYSTEM MEDITERRANEAN FREE FLOW	DIST. SYSTEM MEDITERRANEAN FREE FLOW
				CHLORIDE (MG/L)	COLOUR (H2U)						
1991 JAN	15.200	15.500	16.300	16.700							
1991 MAR	22.000	23.200									
1991 MAY	11.500	14.600									
1991 JUL	11.100	14.900	15.400	14.400							
1991 SEP	13.400	21.100									
1991 NOV	10.400	12.300									
1992 JAN	21.700	22.100									
1992 MAR	21.300	22.800									
1992 MAY	10.000	11.700									
1992 JUL	10.700	12.400									
1992 SEP	14.100	14.100									
1992 NOV	13.000	12.600									
DET'N LIMIT = 0.50											
1991 JAN	12.000	BOL	1.000 <T	2.500							
1991 MAR	6.500	.500 <T									
1991 MAY	BOL	BOL									
1991 JUL	BOL	BOL	.500 <T	2.000							
1991 SEP	1.000 <T	BOL									
1991 NOV	BOL	BOL									
1992 JAN	1.000 <T	.500 <T									
1992 MAR	BOL	.500 <T									
1992 MAY	1.000	BOL									
1992 JUL	1.000	BOL									
1992 SEP	4.500	BOL									
1992 NOV	9.000	.500 <T									
DET'N LIMIT = 1.0											
1991 JAN	306	282	294	305							
1991 MAR	350	355									
1991 MAY	258	277									
1991 JUL	237	249									
1991 SEP	242	269									
1991 NOV	236	248									
1992 JAN	302	308									
1992 MAR	338	359									
1992 MAY	242	254									
1992 JUL	242	254									
1992 SEP	265	254									
1992 NOV	254	258									
DET'N LIMIT = 400 (F2)											
1991 JAN											
1991 MAR											
1991 MAY											
1991 JUL											
1991 SEP											
1991 NOV											
1992 JAN											
1992 MAR											
1992 MAY											
1992 JUL											
1992 SEP											
1992 NOV											

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

DIST. SYSTEM RICHMOND ST. FREE FLOW	DIST. SYSTEM RICMOND ST STANDING	CHEMISTRY (LABORATORY)	DET'N LIMIT = 0.20		GUIDELINE = 250 (A3)
			DIST. SYSTEM VENTNOR AVE FREE FLOW	DIST. SYSTEM VENTNOR AVE STANDING	
CHLORIDE (MG/L)					
1991 JAN	23.300	23.300	18,400		19,600
1991 MAR	13,900	13,700			
1991 MAY					
1991 JUL			16,100		15,300
1991 SEP	25,900	24,900			
1992 JAN	20,000	19,500	12,000		13,200
1992 MAY					
1992 SEP			14,900		14,800
COLOUR (HCU)					
1991 JAN	BDL	BDL			
1991 MAR	.500 < t	.500 < t			
1991 MAY					
1991 JUL			BDL		BDL
1991 SEP	BDL	1,000 < t			
1992 JAN	BDL	1,000 < t			
1992 MAY			BDL		BDL
1992 SEP			BDL		BDL
CONDUTIVITY (UHMW/CM)					
			DET'N LIMIT = 1.0		
1991 JAN			317		324
1991 MAR	365	365			
1991 MAY	273	266			
1991 JUL			257		256
1991 SEP	292	287			
1992 JAN	299	296			
1992 MAY			259		274
1992 SEP			265		264

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 ANHERSTBURG WSS

TREATMENT PLANT RAW	TREATMENT PLANT TREATED	DIST. SYSTEM DALHOUSIE ST FREE FLOW		DIST. SYSTEM DALHOUSIE ST FREE FLOW		DIST. SYSTEM FORT ST STANDING		DIST. SYSTEM MEDITERRANEAN FREE FLOW		DIST. SYSTEM MEDITERRANEAN STANDING	
		DET'N LIMIT = 0.10	DET'N LIMIT = 0.10	DET'N LIMIT = 0.10	DET'N LIMIT = 0.10	DET'N LIMIT = 0.5	DET'N LIMIT = 0.5	DET'N LIMIT = 0.5	DET'N LIMIT = 0.5	GUIDELINE = 5.0 (A3)	GUIDELINE = 1.5 (A1)
DISS ORG CARBON (MG/L)											
1991 JAN	2,800	1,500	1,500	1,500	1,500	1,600	1,600	1,600	1,600	-	-
1991 MAR	2,600	1,600	1,600	1,600	1,600	-	-	-	-	-	-
1991 MAY	1,900	1,400	1,400	1,400	1,400	-	-	-	-	-	-
1991 JUL	1,600	.600	.700	.700	.600	-	-	-	-	-	-
1991 SEP	1,800	1,000	1,000	1,000	1,000	-	-	-	-	-	-
1991 NOV	1,400	1,100	1,100	1,100	1,100	-	-	-	-	-	-
1992 JAN	1,800	1,300	1,300	1,300	1,300	-	-	-	-	-	-
1992 MAR	2,800	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	-	-
1992 MAY	1,700	1,200	1,200	1,200	1,200	-	-	-	-	-	-
1992 JUL	1,900	.900	.900	.900	.900	-	-	-	-	-	-
1992 SEP	2,900	1,500	1,500	1,500	1,500	-	-	-	-	-	-
1992 NOV	2,500	1,200	1,200	1,200	1,200	-	-	-	-	-	-
FLUORIDE (MG/L)											
1991 JAN	.100	.800	.800	.920	.960	-	-	-	-	-	-
1991 MAR	.100	1,020	1,020	-	-	-	-	-	-	-	-
1991 MAY	.080	1,180	1,180	-	-	-	-	-	-	-	-
1991 JUL	.100	1,200	1,200	1,120	1,160	-	-	-	-	-	-
1991 SEP	.120	1,240	1,240	-	-	-	-	-	-	-	-
1991 NOV	.080	1,020	1,020	-	-	-	-	-	-	-	-
1992 JAN	.100	1,160	1,160	-	-	-	-	-	-	-	-
1992 MAR	.100	1,000	1,000	-	-	-	-	-	-	-	-
1992 MAY	.120	1,260	1,260	-	-	-	-	-	-	-	-
1992 JUL	.100	1,280	1,280	-	-	-	-	-	-	-	-
1992 SEP	.120	1,260	1,260	-	-	-	-	-	-	-	-
1992 NOV	.100	1,040	1,040	-	-	-	-	-	-	-	-
HARDNESS (MG/L)											
1991 JAN	141,700	128,800	131,900	133,000	-	-	-	-	-	-	-
1991 MAR	154,000	157,000	-	-	-	-	-	-	-	-	-
1991 MAY	128,000	130,000	-	-	-	-	-	-	-	-	-
1991 JUL	108,000	109,000	111,000	111,000	-	-	-	-	-	-	-
1991 SEP	105,600	107,300	-	-	-	-	-	-	-	-	-
1991 NOV	103,300	103,300	-	-	-	-	-	-	-	-	-
1992 JAN	117,500	121,300	-	-	-	-	-	-	-	-	-
1992 MAR	145,000	153,000	-	-	-	-	-	-	-	-	-
1992 MAY	109,720	111,300	-	-	-	-	-	-	-	-	-
1992 JUL	104,440	102,180	-	-	-	-	-	-	-	-	-
1992 SEP	115,310	107,440	-	-	-	-	-	-	-	-	-
1992 NOV	113,710	111,280	-	-	-	-	-	-	-	-	-

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

DIST. SYSTEM RICHMOND ST FREE FLOW	DIST. SYSTEM RICHMOND ST STANDING	CHEMISTRY (LABORATORY)		DET'N LIMIT = 0.10	GUIDELINE = 5.0 (A3)
		DISS ORG CARBON (MG/L)	FLUORIDE (MG/L)		
1991 JAN					
1991 MAR	2,200		1,800	1,700	
1991 MAY	1,400		1,100		
1991 JUL					
1991 SEP	1,200		.900	.700	
1992 JAN	1,200		1,700		
1992 MAY					
1992 SEP					
DIST. SYSTEM VENTNOR AVE FREE FLOW	DIST. SYSTEM VENTNOR AVE STANDING	CHEMISTRY (LABORATORY)		DET'N LIMIT = 0.01	GUIDELINE = 1.5 (A1)
		DISS ORG CARBON (MG/L)	FLUORIDE (MG/L)		
1991 JAN					
1991 MAR	.960		.960	.880	
1991 MAY	1,100		1,000		
1991 JUL					
1991 SEP	1,200		1,200	1,100	
1992 JAN	.980		.980		
1992 MAY					
1992 SEP					
DIST. SYSTEM VENTNOR AVE FREE FLOW	DIST. SYSTEM VENTNOR AVE STANDING	CHEMISTRY (LABORATORY)		DET'N LIMIT = 0.5	GUIDELINE = 80-100 (A4)
		HARDNESS (MG/L)	FLUORIDE (MG/L)		
1991 JAN					
1991 MAR	161,000		161,000	144,700	
1991 MAY	131,000		125,000		
1991 JUL					
1991 SEP	108,900		106,700	114,000	
1992 JAN	119,100		119,000		
1992 MAY					
1992 SEP					

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

TREATMENT PLANT RAW	TREATMENT PLANT TREATED	DIST. SYSTEM DALHOUSIE ST FREE FLOW	DIST. SYSTEM DALHOUSE ST STANDING	DIST. SYSTEM FORT ST STANDING		DIST. SYSTEM MEDITERRANEAN FREE FLOW	DIST. SYSTEM MEDITERRANEAN STANDING
				DET'N LIMIT = N/A	GUIDELINE = N/A		
IONICAL (DMNSLESS)							
1991 JAN	2.535	2.574	.712	.942			
1991 MAR	1.145 NAF	3.658 NAF					
1991 MAY	4.676 NAF	5.324 NAF					
1991 JUL	1.797	4.213		2.187			
1991 SEP	2.339 NAF	2.089 NAF					
1991 NOV	.173 NAF	.137 NAF					
1992 JAN	.419	3.118					
1992 MAR	.725	.220					
1992 MAY	2.710	.582					
1992 JUL	2.432	.580					
1992 SEP	.033	1.060					
1992 NOV	.754	2.314					
POTASSIUM (MG/L)							
1991 JAN	1.900	1.310	1.420	1.430			
1991 MAR	1.750	1.650					
1991 MAY	1.200	1.150					
1991 JUL	.950	.950	1.000	1.000			
1991 SEP	1.040	1.060					
1991 NOV	1.000	.980					
1992 JAN	1.130	1.120					
1992 MAR	2.210	1.600					
1992 MAY	1.130	1.080					
1992 JUL	1.169	.996					
1992 SEP	2.186	1.268					
1992 NOV	2.284	1.231					
LANGEIERS INDEX (DMNSLESS)							
1991 JAN	.467	.066	.089	.055			
1991 MAR	.604	.234	..				
1991 MAY	.331	.054					
1991 JUL	.306	-.094	-.026 NAF	.065			
1991 SEP	.265	.032					
1991 NOV	.163	-.267					
1992 JAN	.241	.088					
1992 MAR	.473	-.026					
1992 MAY	.347	.143					
1992 JUL	.189	-.478					
1992 SEP	.182	-.414					
1992 NOV	.169	-.283					

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

1991 DIST. SYSTEM RICHMOND ST FREE FLOW	1991 DIST. SYSTEM RICHMOND ST STANDING	1991 DIST. SYSTEM VENTOR AVE FREE FLOW	1991 DIST. SYSTEM VENTOR AVE STANDING	1992 DIST. SYSTEM VENTOR AVE FREE FLOW	1992 DIST. SYSTEM VENTOR AVE STANDING
IONCAL (OMNSLESS)					
1991 JAN	2.656 NAF	3.392 NAF	2.287	.207	
1991 MAR	3.441 NAF	4.060 NAF			
1991 MAY			3.901 NAF	1.268 NAF	
1991 JUL					
1991 SEP	1.383 NAF	.041 NAF			
1992 JAN	4.050	3.730			
1992 MAY					
1992 SEP			.095	.666	
CHEMISTRY (LABORATORY)					
DETN LIMIT = N/A					
GUIDELINE = N/A					
POTASSIUM (MG/L)					
1991 JAN					
1991 MAR	1.650	1.700	* 1.520	1.520	
1991 MAY	1.150	1.050			
1991 JUL					
1991 SEP	1.200	.950			
1992 JAN	1.070	1.110			
1992 MAY					
1992 SEP			1.120	1.210	
			1.339	1.339	
DETN LIMIT = 0.01					
GUIDELINE = 10 (F2)					
LAUGELIERS INDEX (OMNSLESS)					
DETN LIMIT = N/A					
GUIDELINE = N/A					
1991 JAN					
1991 MAR	.256	.356	.263	.264	
1991 MAY	.147	.023			
1991 JUL					
1991 SEP	.037	.112			
1992 JAN	.104	.127			
1992 MAY					
1992 SEP			.285	.306	
			.057	-.084	

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

		DIST. SYSTEM RICHMOND ST FREE FLOW	DIST. SYSTEM RICHMOND ST STANDING	DIST. SYSTEM VENINOR AVE FREE FLOW	DIST. SYSTEM VENINOR AVE STANDING	
CHEMISTRY (LABORATORY)						
MAGNESIUM (MG/L)	)					DET'N LIMIT = 0.1
1991 JAN	.	.	.	.	.	9,300
1991 MAR	10,300	10,400	.	.	.	9,550
1991 MAY	8,500	8,500	.	.	.	.
1991 JUL	.	.	7,600	.	.	7,700
1991 SEP	7,650	7,750	.	.	.	.
1992 JAN	8,500	8,450	.	.	.	.
1992 MAY	.	.	7,950	.	.	8,580
1992 SEP	.	.	8,020	.	.	7,970
SODIUM (MG/L)	)					DET'N LIMIT = 0.20
1991 JAN	.	.	8,100	.	.	8,900
1991 MAR	12,000	12,000	.	.	.	.
1991 MAY	7,000	7,000	.	.	.	.
1991 JUL	.	.	8,200	.	.	7,600
1991 SEP	14,000	13,600	.	.	.	.
1992 JAN	12,000	11,000	.	.	.	.
1992 MAY	.	.	5,980	.	.	6,460
1992 SEP	.	.	7,760	.	.	7,820
AMMONIUM TOTAL (MG/L)	)					DET'N LIMIT = 0.002
1991 JAN	.	.	.	.	.	.002 <1
1991 MAR	BOL	.002 <1	.	.	.	.024
1991 MAY	BOL	.376	.	.	.	.
1991 JUL	.	.	.006 <1	.	.	.016
1991 SEP	.	.	.	.	.	.
1992 JAN	.002 <1	.012	.	.	.	.
1992 MAY	.002 <1	BOL	.	.	.	.004 <1
1992 SEP	.	.	BOL	.	.	BOL
						GUIDELINE = 0.05 (F2)

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

TREATMENT PLANT RAW	TREATMENT PLANT TREATED	CHEMISTRY (LABORATORY)	DET'N LIMIT = 0.001		GUIDELINE = 1.0 (A1)	
			DIST. SYSTEM DALHOUSIE ST FREE FLOW	DIST. SYSTEM FORT ST FREE FLOW	DIST. SYSTEM DALHOUSIE ST FREE FLOW	DIST. SYSTEM FORT ST FREE FLOW
NITRITE (MG/L)	)	NITRATE (TOTAL) (MG/L)	)	DET'N LIMIT = 0.005	GUIDELINE = 10.0 (A1)	
1991 JAN	.048	1991 JAN	1,540	1,000	1,210	1,290
1991 MAR	.023	1991 MAR	1,970	1,920	-	-
1991 MAY	.002 <T	1991 MAY	.015	<T	-	-
1991 JUL	.009	1991 JUL	.325	.250	.245	.245
1991 SEP	.008	1991 SEP	.235	.235	-	-
1991 NOV	.004 <T	1991 NOV	.295	.305	-	-
1992 JAN	.014	1992 JAN	.790	.975	-	-
1992 MAR	.059	1992 MAR	.695	.750	2,860	2,750
1992 JUL	.018	1992 JUL	.760	.550	-	-
1992 SEP	.035	1992 SEP	.575	.390	-	-
1992 NOV	.029	1992 NOV	.645	.530	-	-
NITROGEN TOT KJELD (MG/L)	)	NITROGEN TOT KJELD (MG/L)	)	DET'N LIMIT = 0.02	GUIDELINE = N/A	
1991 JAN	.490	1991 JAN	.490	.130	.150	.170
1991 MAR	.360	1991 MAR	.360	.180	-	-
1991 MAY	.080 <T	1991 MAY	.080 <T	.070 <T	.080 <T	.120
1991 JUL	.310	1991 JUL	.310	.060 <T	-	-
1991 SEP	.210	1991 SEP	.220	.090 <T	-	-
1991 NOV	.220	1991 NOV	.270	.130	-	-
1992 JAN	.270	1992 JAN	.500	.180	-	-
1992 MAR	.500	1992 MAR	.260	.100	-	-
1992 MAY	.260	1992 MAY	.220	.070 <T	-	-
1992 JUL	.500	1992 JUL	.500	.150	-	-
1992 SEP	.425	1992 SEP	.425	.090 <T	-	-
1992 NOV		1992 NOV				

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

DIST. SYSTEM RICHMOND ST FREE FLOW		DIST. SYSTEM VENTNOR AVE STANDING		DIST. SYSTEM VENTNOR AVE FREE FLOW		DIST. SYSTEM VENTNOR AVE STANDING	
CHEMISTRY (LABORATORY)		DET'N LIMIT = 0.001		DET'N LIMIT = 0.005		DET'N LIMIT = 0.02	
NITRITE (MG/L)	NITRATE (TOTAL) (MG/L)	NITRATE (TOTAL) (MG/L)	NITRATE (TOTAL) (MG/L)	NITROGEN TOT KJELD (MG/L)	NITROGEN TOT KJELD (MG/L)	NITROGEN TOT KJELD (MG/L)	NITROGEN TOT KJELD (MG/L)
1991 JAN	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1991 MAR	.002 <T	.001 <T	.001 <T	.001 <T	.001 <T	.001 <T	.001 <T
1991 MAY							
1991 JUL							
1991 SEP							
1992 JAN	.001 <T	.004 <T	.004 <T	.002 <T	.004 <T	.004 <T	.004 <T
1992 MAY							
1992 SEP							
GUIDELINE = 1.0 (A1)							
1991 JAN	2.050	2.050	1.530	1.530	1.530	1.530	1.500
1991 MAR	1.970	.005 <T					
1991 MAY							
1991 JUL							
1991 SEP							
1992 JAN	.225	.225	.255	.255	.255	.255	.250
1992 MAY	.705	.665					
1992 SEP							
GUIDELINE = 10.0 (A1)							
1991 JAN	.190	.190	.160	.160	.160	.160	.180
1991 MAR	.100	.450					
1991 MAY							
1991 JUL							
1991 SEP							
1992 JAN	.080 <T	.090 <T	.090 <T	.090 <T	.090 <T	.090 <T	.090 <T
1992 MAY	.110	.150					
1992 SEP							
GUIDELINE = N/A							
1991 JAN							
1991 MAR							
1991 MAY							
1991 JUL							
1991 SEP							
1992 JAN							
1992 MAY							
1992 SEP							

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

PH (DINLESS)	TREATMENT PLANT TREATED	TREATMENT PLANT RAW	CHEMISTRY (LABORATORY)	DET/N LIMIT = N/A		GUIDELINE = 6.5-8.5 (A4)
				DIST. SYSTEM DAIRY ST FREE FLOW	DIST. SYSTEM PORT ST FREE FLOW	
1991 JAN	8.280	8.020	8.030	8.050	8.050	7.990
1991 MAR	8.330	8.190	7.880	8.010	8.060	8.150
1991 MAY	8.300	8.280	8.100	8.180	8.120	8.120
1991 JUL	8.210	8.140	8.190	8.140	8.130	8.130
1991 SEP	8.210	8.140	7.680	7.710	7.820	7.820
1991 NOV	8.220	8.220	8.120	8.120	8.120	8.120
1992 JAN	8.280	8.280	7.860	7.860	7.860	7.860
1992 MAR	8.330	8.210	8.190	8.190	8.190	8.190
1992 MAY	8.300	8.210	7.680	7.710	7.820	7.820
1992 JUL	8.210	8.140	7.710	7.710	7.820	7.820
1992 SEP	8.210	8.140	7.710	7.710	7.820	7.820
1992 NOV	8.220	8.220	7.860	7.860	7.860	7.860
PHOSPHORUS FIL REACT (MG/L)				DET/N LIMIT = 0.0005		GUIDELINE = N/A
1991 JAN	.020	.020	.020	BDL	BDL	BDL
1991 MAR	.013	.000 <1	.000 <1	BDL	BDL	BDL
1991 MAY	.000 <1	.007	.000 <1	.002 <1	.002 <1	.002 <1
1991 JUL	.007	.001 <1	.000 <1	.001 <1	.001 <1	.001 <1
1991 SEP	.001 <1	.002 <1	.000 <1	.001 <1	.001 <1	.001 <1
1991 NOV	.002 <1	.004	.001 <1	.001 <1	.001 <1	.001 <1
1992 JAN	.004	.014	.002 <1	.001 <1	.001 <1	.001 <1
1992 MAR	.014	.002 <1	.001 <1	.001 <1	.001 <1	.001 <1
1992 MAY	.002 <1	.011	.001 <1	.001 <1	.001 <1	.001 <1
1992 JUL	.011	.027	.001 <1	.001 <1	.001 <1	.001 <1
1992 SEP	.027	.026	.001 <1	.001 <1	.001 <1	.001 <1
1992 NOV	.026	.026	.001 <1	.001 <1	.001 <1	.001 <1
PHOSPHORUS TOTAL (MG/L)				DET/N LIMIT = 0.002		GUIDELINE = 0.40 (F2)
1991 JAN	.022	.022	.022	BDL	BDL	BDL
1991 MAR	.034	.034	.034	BDL	BDL	BDL
1991 MAY	.020	.029	.029	BDL	BDL	BDL
1991 JUL	.029	.017	.017	.003 <1	.003 <1	.003 <1
1991 SEP	.017	.009 <1	.009 <1	BDL	BDL	BDL
1991 NOV	.009 <1	.010	.010	BDL	BDL	BDL
1992 JAN	.010	.052	.052	.004 <1	.004 <1	.004 <1
1992 MAR	.052	.021	.021	BDL	BDL	BDL
1992 MAY	.021	.005 <1	.005 <1	BDL	BDL	BDL
1992 JUL	.005 <1	.003 <1	.003 <1	BDL	BDL	BDL
1992 SEP	.003 <1	.003 <1	.003 <1	BDL	BDL	BDL
1992 NOV	.003 <1	.085	.085	BDL	BDL	BDL

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

PH (DINNLESS)	CHEMISTRY (LABORATORY)		DET'N LIMIT = N/A	GUIDELINE = 6.5-8.5 (A4)
	DIST. SYSTEM RICHMOND ST FREE FLOW	DIST. SYSTEM RICHMOND ST STANDING		
1991 JAN	8.030	8.140	8.130	8.130
1991 MAR	8.070	7.980	8.120	8.110
1991 MAY				
1991 JUL				
1991 SEP	8.100	8.190		
1992 JAN	8.130	8.150	8.290	8.270
1992 MAY			8.020	7.990
1992 SEP				

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

TREATMENT PLANT RAW WATER	TREATMENT PLANT TREATED	DIST. SYSTEM DALHOUSIE ST FREE FLOW	DIST. SYSTEM DALHOUSIE ST STANDING	DIST. SYSTEM FOOT ST FREE FLOW	DIST. SYSTEM FOOT ST STANDING	DIST. SYSTEM MEDITERRANEAN FREE FLOW	DIST. SYSTEM MEDITERRANEAN STANDING
RESIDUE FILTRATE (MG/L)	CHEMISTRY (LABORATORY)	DET'N LIMIT = N/A	GUIDELINE = 500 (A3)	RESIDUE FILTRATE (MG/L)	CHEMISTRY (LABORATORY)	DET'N LIMIT = 0.20	GUIDELINE = 500 (A3)
1991 JAN	199,000 CRO	183,000 CRO	191,000 CRO	198,000 CRO	1991 JAN	23,680	34,580
1991 MAR	227,000 CRO	231,000 CRO	-	-	1991 MAR	25,810	44,610
1991 MAY	168,000 CRO	180,000 CRO	-	-	1991 MAY	20,870	34,380
1991 JUL	154,000 CRO	162,000 CRO	164,000 CRO	162,000 CRO	1991 JUL	17,310	31,550
1991 SEP	157,000 CRO	175,000 CRO	-	-	1991 SEP	15,130	23,960
1991 NOV	153,000 CRO	161,000 CRO	-	-	1991 NOV	15,890	28,820
1992 JAN	196,000 CRO	200,000 CRO	-	-	1992 JAN	23,700	33,370
1992 MAR	220,000 CRO	233,000 CRO	-	-	1992 MAR	26,970	49,920
1992 MAY	157,000 CRO	165,000 CRO	-	-	1992 MAY	18,520	29,920
1992 JUL	157,000 CRO	159,000 CRO	-	-	1992 JUL	18,480	32,620
1992 SEP	172,000 CRO	165,000 CRO	-	-	1992 SEP	21,330	31,120
1992 NOV	165,000 CRO	168,000 CRO	-	-	1992 NOV	18,570	37,100
		DET'N LIMIT = 0.05	GUIDELINE = 1.0 (A1)				
SULPHATE (MG/L)	TURBIDITY (FTU)	DET'N LIMIT = 0.20	GUIDELINE = 500 (A3)	SULPHATE (MG/L)	TURBIDITY (FTU)	DET'N LIMIT = 0.05	GUIDELINE = 1.0 (A1)
1991 JAN	22,000	.310	.420	1991 JAN	19,000	.310	.3,300 RRV
1991 MAR	31,000	.150	-	1991 MAR	17,700	.180 <T	-
1991 MAY	10,500	.110	-	1991 JUL	10,900	.140	1,600 RRV
1991 JUL	-	.590	-	1991 SEP	-	.590	-
1991 SEP	-	.170 <T	-	1991 NOV	5,500	-	-
1991 NOV	-	.280	-	1992 JAN	7,200	-	-
1992 JAN	-	.140 <T	-	1992 MAR	41,000	.140 <T	.890
1992 MAR	-	.230 <T	-	1992 MAY	12,500	.230 <T	.220 <T
1992 JUL	-	.230 <T	-	1992 SEP	71,000	.350	.280
1992 SEP	-	.310	-	1992 NOV	87,000	.310	.320
		DET'N LIMIT = 0.05	GUIDELINE = 1.0 (A1)				

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

RESIDUE FILTRATE (MG/L)	CHEMISTRY (LABORATORY)		DET'N LIMIT = N/A	GUIDELINE = 500 (A3)
	DIST. SYSTEM RICHMOND ST STANDING FREE FLOW	DIST. SYSTEM VENTNOR AVE FREE FLOW		
1991 JAN	257,000 CRO	257,000 CRO	206,000 CRO	211,000 CRO
1991 MAR	177,000 CRO	173,000 CRO	167,000 CRO	166,000 CRO
1991 MAY	190,000 CRO	187,000 CRO	168,000 CRO	178,000 CRO
1991 JUL	194,000 CRO	192,000 CRO	172,000 CRO	172,000 CRO
1991 SEP	-	-	-	-
SULPHATE (MG/L)	DET'N LIMIT = 0.20		GUIDELINE = 500 (A3)	
1991 JAN	43,520	43,860	38,950	39,410
1991 MAR	31,170	34,600	-	-
1991 MAY	-	-	-	-
1991 JUL	-	-	32,310	33,320
1991 SEP	24,460	25,070	-	-
1992 JAN	31,990	31,190	28,690	29,300
1992 MAY	-	-	35,870	34,230
TURBIDITY (FTU)	DET'N LIMIT = 0.05		GUIDELINE = 1.0 (A1)	
1991 JAN	-	-	.280	.970
1991 MAR	.100	.220	-	-
1991 MAY	.570	.390	-	-
1991 JUL	-	.160	-	.220
1991 SEP	.320	.630	-	-
1992 JAN	.210 <1	.940	.370	.490
1992 MAY	-	-	.420	.470
1992 SEP	-	-	-	-

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

TREATMENT PLANT RAW	TREATMENT PLANT TREATED	PLANT FREE FLOW	DIST. SYSTEM DAHOUISIE ST STANDING			DIST. SYSTEM FORT ST FREE FLOW			DIST. SYSTEM FOOT ST STANDING			DIST. SYSTEM MEDITERRANEAN FREE FLOW			DIST. SYSTEM MEDITERRANEAN STANDING		
			SILVER (UG/L)	DET'N LIMIT = 0.05	DET'N LIMIT = 0.10	SILVER (UG/L)	DET'N LIMIT = 0.05	DET'N LIMIT = 0.10	SILVER (UG/L)	DET'N LIMIT = 0.05	DET'N LIMIT = 0.10	SILVER (UG/L)	DET'N LIMIT = 0.05	DET'N LIMIT = 0.10	SILVER (UG/L)	DET'N LIMIT = 0.05	DET'N LIMIT = 0.10
49 SAMPLES	49 SAMPLES	49 SAMPLES	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
ALUMINUM (UG/L)	ALUMINUM (UG/L)	ALUMINUM (UG/L))))))))))))))))
1991 JAN	210,000	16,000	15,000	19,000	19,000	19,000	19,000	19,000	19,000	19,000	19,000	19,000	19,000	19,000	19,000	19,000	19,000
1991 MAR	200,000	18,000	17,000	17,000	17,000	17,000	17,000	17,000	17,000	17,000	17,000	17,000	17,000	17,000	17,000	17,000	17,000
1991 MAY	320,000	47,000	41,000	41,000	41,000	41,000	41,000	41,000	41,000	41,000	41,000	41,000	41,000	41,000	41,000	41,000	41,000
1991 JUL	150,000	88,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000
1991 SEP	130,000	130,000	130,000	130,000	130,000	130,000	130,000	130,000	130,000	130,000	130,000	130,000	130,000	130,000	130,000	130,000	130,000
1991 NOV	70,000	21,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
1992 JAN	100,000	20,000	17,000	17,000	17,000	17,000	17,000	17,000	17,000	17,000	17,000	17,000	17,000	17,000	17,000	17,000	17,000
1992 MAR	370,000	52,000	21,000	21,000	21,000	21,000	21,000	21,000	21,000	21,000	21,000	21,000	21,000	21,000	21,000	21,000	21,000
1992 MAY	190,000	49,000	49,000	49,000	49,000	49,000	49,000	49,000	49,000	49,000	49,000	49,000	49,000	49,000	49,000	49,000	49,000
1992 JUL	140,000	53,000	53,000	53,000	53,000	53,000	53,000	53,000	53,000	53,000	53,000	53,000	53,000	53,000	53,000	53,000	53,000
1992 SEP	560,000	680,000	23,000	23,000	23,000	23,000	23,000	23,000	23,000	23,000	23,000	23,000	23,000	23,000	23,000	23,000	23,000
1992 NOV																	
ARSENIC (UG/L)	ARSENIC (UG/L)	ARSENIC (UG/L))))))))))))))))
1991 JAN	.650 <T	.430 <T	.370 <T	.370 <T	.430 <T	.430 <T	.430 <T	.430 <T	.430 <T	.430 <T	.430 <T	.430 <T	.430 <T	.430 <T	.430 <T	.430 <T	.430 <T
1991 MAR	.210 <T	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1991 MAY	.50 <T	.340 <T	.340 <T	.340 <T	.340 <T	.340 <T	.340 <T	.340 <T	.340 <T	.340 <T	.340 <T	.340 <T	.340 <T	.340 <T	.340 <T	.340 <T	.340 <T
1991 JUL	.660 <T	.390 <T	.390 <T	.390 <T	.390 <T	.390 <T	.390 <T	.390 <T	.390 <T	.390 <T	.390 <T	.390 <T	.390 <T	.390 <T	.390 <T	.390 <T	.390 <T
1991 SEP	.710 <T	.460 <T	.460 <T	.460 <T	.460 <T	.460 <T	.460 <T	.460 <T	.460 <T	.460 <T	.460 <T	.460 <T	.460 <T	.460 <T	.460 <T	.460 <T	.460 <T
1991 NOV	.500 <T	.390 <T	.390 <T	.390 <T	.390 <T	.390 <T	.390 <T	.390 <T	.390 <T	.390 <T	.390 <T	.390 <T	.390 <T	.390 <T	.390 <T	.390 <T	.390 <T
1992 JAN	.500 <T	.500 <T	.500 <T	.500 <T	.500 <T	.500 <T	.500 <T	.500 <T	.500 <T	.500 <T	.500 <T	.500 <T	.500 <T	.500 <T	.500 <T	.500 <T	.500 <T
1992 MAR	.530 <T	.260 <T	.260 <T	.260 <T	.260 <T	.260 <T	.260 <T	.260 <T	.260 <T	.260 <T	.260 <T	.260 <T	.260 <T	.260 <T	.260 <T	.260 <T	.260 <T
1992 MAY	.240 <T	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1992 JUL	.910 <T	.420 <T	.420 <T	.420 <T	.420 <T	.420 <T	.420 <T	.420 <T	.420 <T	.420 <T	.420 <T	.420 <T	.420 <T	.420 <T	.420 <T	.420 <T	.420 <T
1992 SEP	1,000 <T	.460 <T	.460 <T	.460 <T	.460 <T	.460 <T	.460 <T	.460 <T	.460 <T	.460 <T	.460 <T	.460 <T	.460 <T	.460 <T	.460 <T	.460 <T	.460 <T
1992 NOV	.710 <T	.160 <T	.160 <T	.160 <T	.160 <T	.160 <T	.160 <T	.160 <T	.160 <T	.160 <T	.160 <T	.160 <T	.160 <T	.160 <T	.160 <T	.160 <T	.160 <T

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

SILVER (UG/L)	METALS	DET N LIMIT = 0.05			GUIDELINE = N/A
		BDL	BDL	BDL	
ALUMINUM (UG/L)					
1991 JAN					DET N LIMIT = 0.10
1991 MAR	17,000	19,000	15,000	4,000	GUIDELINE = 100 (A4)
1991 MAY	35,000	5,600	50,000	38,000	
1991 JUL					
1991 SEP	100,000	59,000			
1992 JAN	1SM	18,000			
1992 MAY			48,000	45,000	
1992 SEP			51,000	44,000	
ARSENIC (UG/L)					
1991 JAN					DET N LIMIT = 0.10
1991 MAR	.320 <T	.320 <T	.400 <T	.240 <T	GUIDELINE = 25 (A1)
1991 MAY	.420 <T	.240 <T			
1991 JUL					
1991 SEP	.430 <T	.210 <T			
1992 JAN	1SM	.540 <T			
1992 MAY			BDL	BDL	
1992 SEP			.330 <T	.340 <T	

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

TREATMENT PLANT RAW	TREATMENT PLANT TREATED	DIST. SYSTEM FREE FLOW	DIST. SYSTEM DALHOUSIE ST STANDING	DIST. SYSTEM FORT ST STANDING	DIST. SYSTEM FORT ST FREE FLOW	DIST. SYSTEM MEDITERRANEAN FREE FLOW		DIST. SYSTEM MEDITERRANEAN STANDING
						DET'N LIMIT = 0.05	GUIDELINE = 1000 (A2)	
METALS								
BARIUM (UG/L))							
1991 JAN	20,000	16,000	16,000	16,000	16,000			
1991 MAR	20,000	18,000	18,000	18,000	18,000			
1991 MAY	19,000	18,000	18,000	18,000	18,000			
1991 JUL	15,000	20,000	20,000	20,000	20,000			
1991 SEP	16,000	21,000	21,000	21,000	21,000			
1991 NOV	16,000	17,000	17,000	17,000	17,000			
1992 JAN	17,000	17,000	17,000	17,000	17,000			
1992 MAR	23,000	20,000	20,000	20,000	20,000			
1992 MAY	17,000	17,000	17,000	17,000	17,000			
1992 JUL	16,000	17,000	17,000	17,000	17,000			
1992 SEP	23,000	17,000	17,000	17,000	17,000			
1992 NOV	23,000	16,000	16,000	16,000	16,000			
BORON (UG/L)								
)							
1991 JAN	22,000	23,000	24,000	21,000	21,000			
1991 MAR	29,000	23,000	23,000	23,000	23,000			
1991 MAY	18,000 <†	19,000	19,000 <†	19,000	19,000			
1991 JUL	13,000 <†	23,000	23,000	23,000	23,000			
1991 SEP	14,000 <†	24,000	24,000	24,000	24,000			
1991 NOV	21,000	28,000	28,000	28,000	28,000			
1992 JAN	17,000 <†	21,000	21,000	21,000	21,000			
1992 MAR	21,000	20,000 <†	20,000 <†	20,000 <†	20,000 <†			
1992 MAY	19,000 <†	17,000 <†	17,000 <†	17,000 <†	17,000 <†			
1992 JUL	20,000 <†	18,000 <†	18,000 <†	18,000 <†	18,000 <†			
1992 SEP	30,000	23,000	23,000	23,000	23,000			
1992 NOV	26,000	26,000	26,000	26,000	26,000			
BERYLLIUM (UG/L)								
)							
1991 JAN	.060 <†	BOL	BOL	BOL	BOL			
1991 MAR	BOL	BOL	BOL	BOL	BOL			
1991 MAY	BOL	BOL	BOL	BOL	BOL			
1991 JUL	BOL	BOL	BOL	BOL	BOL			
1991 SEP	.100 <†	.120 <†	.120 <†	.120 <†	.120 <†			
1991 NOV	BOL	BOL	BOL	BOL	BOL			
1992 JAN	BOL	BOL	BOL	BOL	BOL			
1992 MAR	BOL	BOL	BOL	BOL	BOL			
1992 MAY	BOL	BOL	BOL	BOL	BOL			
1992 JUL	BOL	BOL	BOL	BOL	BOL			
1992 SEP	BOL	BOL	BOL	BOL	BOL			
1992 NOV	.070 <†	BOL	BOL	BOL	BOL			

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

DIST. SYSTEM RICHMOND ST FREE FLOW	METALS)	DET'N LIMIT = 0.05		GUIDELINE = 1000 (A2)
		DIST. SYSTEM VENTNOR AVE FREE FLOW	DIST. SYSTEM VENTNOR AVE STANDING	
BARIUM (UG/L))			
1991 JAN	18,000	18,000	17,000	17,000
1991 MAR	17,000	21,000	20,000	21,000
1991 MAY				
1991 JUL				
1991 SEP	20,000	23,000	20,000	20,000
1992 JAN	1SM	17,000	17,000	20,000
1992 MAY				
1992 SEP				
BORON (UG/L)	)			GUIDELINE = 5000 (A1)
1991 JAN	20,000 <T	18,000 <T	21,000	32,000
1991 MAR	18,000 <T	28,000	25,000	28,000
1991 MAY				
1991 JUL				
1991 SEP	24,000	32,000	20,000 <T	23,000
1992 JAN	1SM			
1992 MAY				
1992 SEP				
BERYLLIUM (UG/L)	)			DET'N LIMIT = 0.05
1991 JAN			BDL	BDL
1991 MAR	BDL	BDL		
1991 MAY	BDL			
1991 JUL				
1991 SEP				
1992 JAN	.090 <T	.090 <T	BDL	BDL
1992 MAY	1SM	BDL		
1992 SEP		BDL	BDL	BDL

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

TREATMENT RAW	TREATMENT PLANT TREATED	PLANT FREE FLOW	DIST. SYSTEM DALHOUSIE ST	DIST. SYSTEM FORT ST	DIST. SYSTEM FORT ST	DIST. SYSTEM MEDITERRANEAN FREE FLOW	DIST. SYSTEM MEDITERRANEAN STANDING
			DET'N LIMIT = 0.05	DET'N LIMIT = 0.05	DET'N LIMIT = 0.05	DET'N LIMIT = 0.05	DET'N LIMIT = 0.05
METALS							
CADMIUM (UG/L))						
1991 JAN	80L	.070 <T	80L	.070 <T	80L	.070 <T	
1991 MAR	80L		80L		80L		
1991 MAY	80L		80L		80L		
1991 JUL	80L		80L		80L		
1991 SEP	80L		80L		80L		
1991 NOV	80L		80L		80L		
1992 JAN	80L		80L		80L		
1992 MAR	80L	.060 <T	80L	.060 <T	80L	.070 <T	
1992 JUL	80L		80L		80L		
1992 SEP	80L	.170 <T	80L		80L		
1992 NOV	80L		80L		80L		
COBALT (UG/L)							
1991 JAN	.370 <T	.260 <T	.240 <T	.230 <T			
1991 MAR	.200 <T	.080 <T					
1991 MAY	.400 <T	.080 <T					
1991 JUL	.180 <T	.090 <T	.060 <T	.120 <T			
1991 SEP	.190 <T	.110 <T					
1991 NOV	.140 <T	.130 <T					
1992 JAN	.180 <T	.100 <T					
1992 MAR	.480 <T	.150 <T					
1992 MAY	.270 <T	.100 <T					
1992 JUL	.390 <T	.270 <T					
1992 SEP	.470 <T	.210 <T					
1992 NOV	.500 <T	.150 <T					
CHROMIUM (UG/L)							
1991 JAN	2,700 <T	2,100 <T	2,300 <T	1,700 <T			
1991 MAR	2,600 <T	1,100 <T					
1991 MAY	3,200 <T	2,700 <T					
1991 JUL	.770 <T	80L	.560 <T	.550 <T			
1991 SEP	.590 <T	80L					
1991 NOV	2,600 <T	2,400 <T					
1992 JAN	.590 <T	.930 <T					
1992 MAR	1,100 <T	80L					
1992 MAY	1,700 <T	80L					
1992 JUL	.510 <T	80L					
1992 SEP	.990 <T	.560 <T					
1992 NOV	5,100	4,000 <T					

GUIDELINE = 5.0 (A1)

GUIDELINE = N/A

GUIDELINE = 50.0 (A1)

GUIDELINE = 50.0 (A1)

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

METALS	DET/N LIMIT = 0.05	GUIDELINE = 5.0 (A1)	
		DIST. SYSTEM RICHMOND ST STANDING	DIST. SYSTEM VENINOR AVE FREE FLOW
CADMIUM (UG/L)			
1991 JAN			
	.090 <T	.050 <T	.280 <T
1991 MAR	.070 <T	.060 <T	.2200
1991 MAY			
1991 JUL			
1991 SEP			
1992 JAN			
1992 MAY			
1992 SEP			
COBALT (UG/L)			
1991 JAN			
	.090 <T	.050 <T	.280 <T
1991 MAR	.070 <T	.060 <T	.2200
1991 MAY			
1991 JUL			
1991 SEP			
1992 JAN			
1992 MAY			
1992 SEP			
CHROMIUM (UG/L)			
1991 JAN			
	1.900 <T	.670 <T	1.200 <T
1991 MAR	2.500 <T	2.000 <T	1.800 <T
1991 MAY			
1991 JUL			
1991 SEP			
1992 JAN			
1992 MAY			
1992 SEP			

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 ANNHERSTBURG WSS

TREATMENT PLANT RAW	TREATMENT PLANT TREATED	DIST. SYSTEM FREE FLOW	DIST. SYSTEM DALHOUSIE ST FREE FLOW	DIST. SYSTEM DALHOUSIE ST STANDING	DIST. SYSTEM FORT ST FREE FLOW	DIST. SYSTEM FORT ST STANDING	DIST. SYSTEM MEDITERRANEAN FREE FLOW	DIST. SYSTEM MEDITERRANEAN STANDING	
							METALS)	COPPER (UG/L)	DET'N LIMIT = 0.50	GUIDELINE = 1000 (A3)
1991 JAN	4,200 <T	.670 <T	19,000	190,000	.	.			
1991 MAR	3,200 <T	.900 <T	.	.	.	.
1991 MAY	5,500	1,000 <T	.	.	.	.
1991 JUL	3,700 <T	11,000	32,000	340,000	.	.			
1991 SEP	4,400 <T	.710 <T	.	.	.	.
1991 NOV	1,600 <T	BOL	.	.	.	.
1992 JAN	3,500 <T	.540 <T	.	.	.	.
1992 MAR	5,000 <T	.740 <T	.	.	.	.
1992 MAY	4,100 <T	.900 <T	.	.	.	.
1992 JUL	5,400	.800 <T	.	.	.	.
1992 SEP	7,200	1,000 <T	.	.	.	.
1992 NOV	5,600	.670 <T	.	.	.	.
DET'N LIMIT = 6.00									GUIDELINE = 300 (A3)
IRON (UG/L)	IRON (UG/L)	IRON (UG/L)	IRON (UG/L)	IRON (UG/L)	IRON (UG/L)	IRON (UG/L)	IRON (UG/L)	IRON (UG/L)	GUIDELINE = 300 (A3)
									GUIDELINE = 300 (A3)
1991 JAN	220,000	BOL	49,000 <T	350,000	.	.	.	.
1991 MAR	280,000	BOL	.	.	.	.	.	.
1991 MAY	660,000	BOL	.	.	.	.	.	.
1991 JUL	270,000	22,000 <T	59,000 <T	420,000	.	.	.	.
1991 SEP	220,000	11,000 <T	.	.	.	.	.	.
1991 NOV	110,000	BOL	.	.	.	.	.	.
1992 JAN	170,000	29,000 <T	.	.	.	.	.	.
1992 MAR	510,000	9,800 <T	.	.	.	.	.	.
1992 MAY	320,000	10,000 <T	.	.	.	.	.	.
1992 JUL	210,000	BOL	.	.	.	.	.	.
1992 SEP	450,000	8,800 <T	.	.	.	.	.	.
1992 NOV	540,000	BOL	.	.	.	.	.	.
DET'N LIMIT = 0.02									GUIDELINE = 1.0 (A1)
24. SAMPLES	BOL	BOL	BOL	BOL	BOL	BOL	BOL	BOL	GUIDELINE = 1.0 (A1)

TABLE 4
DINKING WATER SURVEILLANCE PROGRAM AND 1992 AMHERSTBURG WSS

DIST. SYSTEM RICHMOND ST FREE FLOW		DIST. SYSTEM RICHMOND ST STANDING		DIST. SYSTEM VENTNOR AVE. FREE FLOW		DIST. SYSTEM VENTNOR AVE. STANDING	
METALS							
COPPER (UG/L)							
1991 JAN	9,800		43,000		21,000	1000,000	GUIDELINE = 1000 (A3)
1991 MAR	21,000		1500,000		-	-	
1991 MAY					29,000	100,000	
1991 JUL					-	-	
1991 SEP	26,000		520,000		-	-	
1992 JAN	1SM	12,000	-		23,000	340,000	
1992 MAY		-			22,000	110,000	
1992 SEP		-					
IRON (UG/L)							
				DETN. LIMIT = 6.00		DETN. LIMIT = 300 (A3)	
1991 JAN							
1991 MAR	80L		80L		80L	93,000	
1991 MAY	6,200 <T		62,000		-	-	
1991 JUL					80L	17,000 <T	
1991 SEP	13,000 <T		61,000		-	-	
1992 JAN	1SM		80L		6,500 <T	51,000 <T	
1992 MAY					12,000 <T	13,000 <T	
1992 SEP							

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

TREATMENT PLANT RAW	TREATMENT PLANT TREATED	DIST. SYSTEM DALHOUSIE ST. FREE FLOW	DIST. SYSTEM DALHOUSIE ST. STANDING	DIST. SYSTEM FORT ST. FREE FLOW		DIST. SYSTEM FORT ST. STANDING	DIST. SYSTEM MEDITERRANEAN FREE FLOW	DIST. SYSTEM MEDITERRANEAN STANDING
				DET'N LIMIT = 0.05	GUIDELINE = 50.0 (A3)			
METALS								
MANGANESE (UG/L))							
1991 JAN	6,500	1,600		4,500		5,300		
1991 MAR	9,200	2,600						
1991 MAY	20,000	.970						
1991 JUL	11,000	2,700	5,100			7,600		
1991 SEP	11,000	.610						
1991 NOV	4,200	.540						
1992 JAN	5,100	1,100						
1992 MAR	15,000	2,300						
1992 MAY	13,000	.410 <†						
1992 JUL	8,600	.270 <†						
1992 SEP	20,000	.580						
1992 NOV	13,000	1,300						
MOLYBDENUM (UG/L)	)			DET'N LIMIT = 0.05		GUIDELINE = N/A		
1991 JAN	.550	.770		.720		.710		
1991 MAR	.390 <†	.750						
1991 MAY	.270 <†	.720						
1991 JUL	.500 <†	.660		.680		.640		
1991 SEP	.230 <†	.550						
1991 NOV	.550	.620						
1992 JAN	.610	.760						
1992 MAR	.510	.990						
1992 MAY	.690	.670						
1992 JUL	.450 <†	.640						
1992 SEP	.440 <†	.900						
1992 NOV	.210 <†	.690						
NICKEL (UG/L)	)			DET'N LIMIT = 0.20		GUIDELINE = 350 (033)		
1991 JAN	.740 <†	.340 <†		.680 <†		2,900		
1991 MAR	.680 <†	BDL						
1991 MAY	1,400 <†	.350 <†						
1991 JUL	.710 <†	.310 <†		.580 <†		4,000		
1991 SEP	1,300 <†	.610 <†						
1991 NOV	BDL	.480 <†						
1992 JAN	.320 <†	BDL						
1992 MAR	2,600	1,400 <†						
1992 MAY	BDL	BDL						
1992 JUL	1,300 <†	.670 <†						
1992 SEP	1,200 <†	.830 <†						
1992 NOV	1,600 <†	.560 <†						

DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

RAW WATER	TREATMENT PLANT	TREATED WATER	DIST. SYSTEM DAHLHOUSE ST FREE FLOW	DIST. SYSTEM DALHOUSE ST STANDING	DIST. SYSTEM FORT ST FREE FLOW	DIST. SYSTEM FORT ST STANDING	DIST. SYSTEM MEDITERRANEAN FREE FLOW	DIST. SYSTEM MEDITERRANEAN STANDING
LEAD (UG/L)	METALS)	DETIN LIMIT = 0.05	GUIDELINE = 10 (A1)	LEAD (UG/L)	METALS)	DETIN LIMIT = 0.05	GUIDELINE = 146 (A4)	LEAD (UG/L)
1991 JAN	.730	.070 <T	.320 <T	1991 JAN	.280 <T	.440 <T	.570	1991 JAN
1991 MAR	.830	.80L	.580	1991 MAR	.350 <T	.580	.580	1991 MAR
1991 MAY	1.800	.090 <T	.1600	1991 MAY	.400 <T	.570	.570	1991 MAY
1991 JUL	.730	.1600	.370 <T	1991 JUL	.1500 <T	.80L	.80L	1991 JUL
1991 SEP	.860	.80L	.180 <T	1991 SEP	.80L	.80L	.80L	1991 SEP
1991 NOV	.310 <T	.180 <T	.180 <T	1991 NOV	.250 <T	.420 <T	.520	1991 NOV
1992 JAN	.400 <T	.80L	.280 <T	1992 JAN	.250 <T	.420 <T	.520	1992 JAN
1992 MAR	1.300	.80L	.280 <T	1992 MAR	.250 <T	.420 <T	.520	1992 MAR
1992 MAY	1.100	.80L	.280 <T	1992 MAY	.250 <T	.420 <T	.520	1992 MAY
1992 JUL	.920	.80L	.280 <T	1992 JUL	.250 <T	.420 <T	.520	1992 JUL
1992 SEP	1.500	.090 <T	.100 <T	1992 SEP	.250 <T	.420 <T	.520	1992 SEP
1992 NOV	1.600	.100 <T	.100 <T	1992 NOV	.250 <T	.420 <T	.520	1992 NOV
SELENIUM (UG/L)	SELENIUM (UG/L)	DETIN LIMIT = 1.00	GUIDELINE = 10 (A1)	SELENIUM (UG/L)	SELENIUM (UG/L)	DETIN LIMIT = 1.00	GUIDELINE = 146 (A4)	SELENIUM (UG/L)
1991 JAN	BOL	BOL	2.000 <T	1991 JAN	BOL	2.000 <T	1.500 <T	1991 JAN
1991 MAR	BOL	1.800 <T	.80L	1991 MAR	BOL	1.800 <T	.80L	1991 MAR
1991 MAY	BOL	1.500 <T	BOL	1991 MAY	BOL	1.500 <T	BOL	1991 MAY
1991 JUL	BOL	BOL	BOL	1991 JUL	BOL	BOL	BOL	1991 JUL
1991 SEP	BOL	BOL	BOL	1991 SEP	BOL	BOL	BOL	1991 SEP
1991 NOV	BOL	BOL	BOL	1991 NOV	BOL	BOL	BOL	1991 NOV
1992 JAN	BOL	BOL	BOL	1992 JAN	BOL	BOL	BOL	1992 JAN
1992 MAR	BOL	BOL	BOL	1992 MAR	BOL	BOL	BOL	1992 MAR
1992 MAY	BOL	BOL	BOL	1992 MAY	BOL	BOL	BOL	1992 MAY
1992 JUL	BOL	BOL	BOL	1992 JUL	BOL	BOL	BOL	1992 JUL
1992 SEP	BOL	BOL	BOL	1992 SEP	BOL	BOL	BOL	1992 SEP
1992 NOV	2.300 <T	1.600 <T	1.600 <T	1992 NOV	2.300 <T	1.600 <T	1.300 <T	1992 NOV

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

DIST. SYSTEM RICHMOND ST FREE FLOW		DIST. SYSTEM VENTNOR AVE STANDING		DIST. SYSTEM VENTNOR AVE FREE FLOW	
METALS		DETN' LIMIT = 0.05		GUIDELINE = 10 (A1)	
LEAD (UG/L))				
1991 JAN	.240 <1	7.700	.070 <1	4.400	.
1991 MAR	.230 <1	3.500	.	.	.
1991 MAY	.	.	.240 <1	.960	.
1991 JUL	.	.	.	.	.
1991 SEP	1.500	5.300	.	.	.
1992 JAN	1SM	.090 <1	.	.	.
1992 MAY	.	.	.210 <1	6.400	.
1992 SEP	.	.	.250 <1	1.300	.
ANTIMONY (UG/L))				
1991 JAN	5.00 <1	.720	.510	.520	.
1991 MAR	.520	.610	.	.	.
1991 MAY	.	.	.650	.680	.
1991 JUL	.	.	.	.	.
1991 SEP	.590	.650	.	.	.
1992 JAN	1SM	.540	.	.	.
1992 MAY	.	.	.550	.690	.
1992 SEP	.	.	.410 <1	.450 <1	.
SELENIUM (UG/L))				
1991 JAN	1.300 <1	1.100 <1	1.300 <1	1.300 <1	.
1991 MAR	1.500 <1	1.400 <1	.	.	.
1991 MAY	.	.	.	.	.
1991 JUL	.	.	.	.	.
1991 SEP	BOL	BOL	BOL	BOL	.
1992 JAN	1SM	BOL	BOL	BOL	.
1992 MAY	.	.	.	.	.
1992 SEP	.	.	.	.	.

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

TREATMENT PLANT RAW	TREATMENT PLANT TREATED	DIST. SYSTEM DALHOUSIE ST FREE FLOW	DIST. SYSTEM DALHOUSIE ST STANDING	DIST. SYSTEM FORT ST FREE FLOW		DIST. SYSTEM MEDITERRANEAN FREE FLOW	DIST. SYSTEM MEDITERRANEAN STANDING
				DET'N LIMIT = 0.10	GUIDELINE = N/A		
STRONTIUM (UG/L)							
1991 JAN	140,000	130,000	140,000		140,000		
1991 MAR	160,000	150,000	150,000		140,000		
1991 MAY	120,000	130,000	120,000		120,000		
1991 JUL	110,000	120,000	120,000		120,000		
1991 SEP	110,000	120,000	120,000		120,000		
1991 NOV	120,000	120,000	120,000		120,000		
1992 JAN	140,000	140,000	140,000		140,000		
1992 MAR	170,000	170,000	170,000		170,000		
1992 MAY	110,000	110,000	110,000		110,000		
1992 JUL	140,000	130,000	130,000		130,000		
1992 SEP	160,000	130,000	130,000		130,000		
1992 NOV	130,000	120,000	120,000		120,000		
TITANIUM (UG/L)				DET'N LIMIT = 0.50	GUIDELINE = N/A		
1991 JAN	9,500	6,000	6,800		7,300		
1991 MAR	8,100	6,300	6,300		6,300		
1991 MAY	4,200 <T	2,200 <T	2,200 <T		2,200 <T		
1991 JUL	3,900 <T	3,400 <T	3,100 <T		3,400 <T		
1991 SEP	1,800 <T	1,200 <T	1,200 <T		1,200 <T		
1991 NOV	2,100 <T	1,500 <T	1,500 <T		1,500 <T		
1992 JAN	3,100 <T	1,700 <T	1,700 <T		1,700 <T		
1992 MAR	6,600	5,400	5,400		5,400		
1992 MAY	2,300 <T	2,100 <T	2,100 <T		2,100 <T		
1992 JUL	5,200	4,000 <T	4,000 <T		4,000 <T		
1992 SEP	4,300 <T	2,300 <T	2,300 <T		2,300 <T		
1992 NOV	3,300 <T	1,800 <T	1,800 <T		1,800 <T		
THALLIUM (UG/L)				DET'N LIMIT = 0.05	GUIDELINE = 13 (D4)		
49 SAMPLES	BDL	BDL	BDL		BDL		

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

DIST. SYSTEM RICHMOND ST FREE FLOW	METALS (μ g/L)	DIST. SYSTEM RICHMOND ST STANDING		DIST. SYSTEM VENINOR AVE FREE FLOW		DIST. SYSTEM VENINOR AVE STANDING	
		DETIN' LIMIT = 0.10	GUIDELINE = N/A	DETIN' LIMIT = 0.50	GUIDELINE = N/A	DETIN' LIMIT = 0.05	GUIDELINE = 13 (04)
STRONTIUM (μ g/L))						
1991 JAN	160.000	150.000	150.000	160.000	160.000	160.000	160.000
1991 MAR	120.000	120.000	120.000	120.000	120.000	120.000	120.000
1991 MAY	120.000	120.000	120.000	120.000	120.000	120.000	120.000
1991 JUL	120.000	120.000	120.000	120.000	120.000	120.000	120.000
1991 SEP	120.000	130.000	130.000	120.000	120.000	120.000	120.000
1992 JAN	15M	140.000	140.000	140.000	140.000	140.000	140.000
1992 MAY	120.000	120.000	120.000	120.000	120.000	120.000	120.000
1992 SEP	120.000	120.000	120.000	120.000	120.000	120.000	120.000
TITANIUM (μ g/L))						
1991 JAN	6.300	5.900	6.700	7.200	7.200	7.200	7.200
1991 MAR	2.200 <1	2.200 <1	2.200 <1	2.700 <1	2.800 <1	2.800 <1	2.800 <1
1991 MAY	1.100 <1	1.100 <1	1.100 <1	1.800 <1	2.200 <1	2.200 <1	2.200 <1
1991 JUL	1.100 <1	1.100 <1	1.100 <1	1.800 <1	2.200 <1	2.200 <1	2.200 <1
1991 SEP	1.100 <1	1.100 <1	1.100 <1	1.800 <1	2.200 <1	2.200 <1	2.200 <1
1992 JAN	15M	1.800 <1	1.800 <1	1.700 <1	1.100 <1	1.100 <1	1.100 <1
1992 MAY	120.000	120.000	120.000	120.000	120.000	120.000	120.000
1992 SEP	120.000	120.000	120.000	120.000	120.000	120.000	120.000
THALLIUM (μ g/L))						
BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

TREATMENT PLANT RAW	TREATED	TREATMENT PLANT	DIST. SYSTEM		DIST. SYSTEM		DIST. SYSTEM	
			DALHOUSE ST FREE FLOW	STANDING	DALHOUSE ST FREE FLOW	STANDING	FORT ST FREE FLOW	STANDING
METALS								
URANIUM (UG/L))							
1991 JAN	.630		.150 <T		.170 <T		.160 <T	
1991 MAR	.730		.150 <T					
1991 MAY	.420 <T		.090 <T					
1991 JUL	.200 <T		BDL		BDL			
1991 SEP	.250 <T		.060 <T					
1991 NOV	.260 <T		BDL					
1992 JAN	.290 <T		.130 <T					
1992 MAR	.680		.100 <T					
1992 MAY	.290 <T		.100 <T					
1992 JUL	.250 <T		BDL					
1992 SEP	.430 <T		BDL					
1992 NOV	.440 <T		BDL					
DET/N LIMIT = 0.05								
VANADIUM (UG/L))							
1991 JAN	.560		.470 <T		.410 <T		.650	
1991 MAR	.480 <T		.440 <T					
1991 MAY	.990		.520					
1991 JUL	.420 <T		.630		.260 <T		.650	
1991 SEP	.590		.490 <T					
1991 NOV	.240 <T		.350 <T					
1992 JAN	.290 <T		.230 <T					
1992 MAR	.890		.490 <T					
1992 MAY	BDL		BDL					
1992 JUL	.640		.630					
1992 SEP	1.300		.810					
1992 NOV	1.200		.640					
DET/N LIMIT = 0.05								
ZINC (UG/L))							
1991 JAN	5,000		2,400		14,000		140,000	
1991 MAR	5,100		3,400					
1991 MAY	2,400		2,200					
1991 JUL	4,800		21,000		170,000			
1991 SEP	3,200		.560 <T					
1991 NOV	2,700		2,300					
1992 JAN	3,900		1,900 <T					
1992 MAR	13,000		2,400					
1992 MAY	5,500		1,500 <T					
1992 JUL	4,600		2,200					
1992 SEP	9,900		3,300					
1992 NOV	7,300		.990 <T					
DET/N LIMIT = 0.20								
GUIDELINE = 100 (A1)								
GUIDELINE = N/A								
GUIDELINE = 5000 (A3)								
GUIDELINE = 180,000								
7,600								
67,000								
2,400								
4,200								

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

METALS	URANIUM (UG/L)	DIST. SYSTEM RICHMOND ST FREE FLOW		DIST. SYSTEM VENTNOR AVE FREE FLOW		DIST. SYSTEM VENTNOR AVE STANDING		GUIDELINE = 100 (A1)
		STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW	
VANADIUM (UG/L)								GUIDELINE = N/A
1991 JAN	.390	<T		.420	<T		.520	.080 <T
1991 MAR	.560			.130	<T			
1991 MAY								
1991 JUL								
1991 SEP	.550			.220	<T			.380 <T
1992 JAN	.1SM			.200	<T			
1992 MAY								
1992 SEP								
ZINC (UG/L)								GUIDELINE = 5000 (A3)
1991 JAN	5.400			12,000			9,200	660,000
1991 MAR	3,600			15,000				
1991 MAY								
1991 JUL								
1991 SEP	3,400			30,000			8,800	64,000
1992 JAN	1SM			3,300				
1992 MAY								
1992 SEP								
								GUIDELINE = 0.20
								DET'N LIMIT = 0.20

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

TREATMENT PLANT RAW	TREATMENT PLANT TREATED	DIST. SYSTEM FREE FLOW	DIST. SYSTEM DALHOUSIE ST STANDING	DIST. SYSTEM FORT ST FREE FLOW	DIST. SYSTEM FORT ST STANDING	DIST. SYSTEM MEDITERRANEAN FREE FLOW	DIST. SYSTEM MEDITERRANEAN STANDING
CHLOROAROMATICS							
HEXACHLOROBUTADIENE (NG/L)			DET'N LIMIT = 1,000		GUIDELINE = 450 (04)		
1991 JAN	BDL	BDL	BDL				
1991 MAR	BDL	BDL	BDL				
1991 MAY	BDL	BDL	BDL				
1991 JUL	BDL	IAW	IAW				
1991 SEP	IAW	IAW	IAW				
1991 NOV	BDL	2,000 <†	BDL				
1992 JAN	BDL	BDL	BDL				
1992 MAR	BDL	BDL	BDL				
1992 MAY	BDL	BDL	BDL				
1992 SEP	BDL	BDL	BDL				
1992 NOV	BDL	BDL	BDL				
123-TRICHLOROBENZENE (NG/L)			DET'N LIMIT = 5,000		GUIDELINE = N/A		
28 SAMPLES	BDL	BDL	BDL		BDL		BDL
1234-TETRACHLOROBENZENE (NG/L)			DET'N LIMIT = 1,000		GUIDELINE = N/A		
28 SAMPLES	BDL	BDL	BDL		BDL		BDL
1235-TETRACHLOROBENZENE (NG/L)			DET'N LIMIT = 1,000		GUIDELINE = N/A		
28 SAMPLES	BDL	BDL	BDL		BDL		BDL
124-TRICHLOROBENZENE (NG/L)			DET'N LIMIT = 5,000		GUIDELINE = 10000 (1)		
28 SAMPLES	BDL	BDL	BDL		BDL		BDL
1245-TETRACHLOROBENZENE (NG/L)			DET'N LIMIT = 1,000		GUIDELINE = 38000 (04)		
28 SAMPLES	BDL	BDL	BDL		BDL		BDL
135-TRICHLOROBENZENE (NG/L)			DET'N LIMIT = 5,000		GUIDELINE = N/A		
28 SAMPLES	BDL	BDL	BDL		BDL		BDL

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

DIST. SYSTEM RICHMOND ST FREE FLOW	DIST. SYSTEM RICHMOND ST STANDING	DIST. SYSTEM VENTNOR AVE FREE FLOW	DIST. SYSTEM VENTNOR AVE STANDING	DET'N LIMIT = 1,000	GUIDELINE = 450 (D4)
CHLOROAROMATICS					
1234 - HEXACHLOROBUTADIENE (NG/L)	BDL	BDL	BDL	BDL	BDL
1991 JAN	BDL	BDL	BDL	BDL	BDL
1991 MAR	BDL	BDL	BDL	BDL	BDL
1991 MAY	BDL	BDL	BDL	BDL	BDL
1991 JUL	BDL	BDL	BDL	BDL	BDL
1991 SEP	1.0W	1.0W	1.0W	1.0W	1.0W
1992 JAN	BDL	BDL	BDL	BDL	BDL
1992 MAY	BDL	BDL	BDL	BDL	BDL
1992 SEP	BDL	BDL	BDL	BDL	BDL
1235 - TRICHLOROBENZENE (NG/L)	BDL	BDL	BDL	DET'N LIMIT = 5,000	GUIDELINE = N/A
1234 - TETRACHLOROBENZENE (NG/L)	BDL	BDL	BDL	DET'N LIMIT = 1,000	GUIDELINE = N/A
1235 - TETRACHLOROBENZENE (NG/L)	BDL	BDL	BDL	DET'N LIMIT = 1,000	GUIDELINE = N/A
124 - TRICHLOROBENZENE (NG/L)	BDL	BDL	BDL	DET'N LIMIT = 5,000	GUIDELINE = 10000 (1)
1245 - TETRACHLOROBENZENE (NG/L)	BDL	BDL	BDL	DET'N LIMIT = 1,000	GUIDELINE = 10000 (1)
135 - TRICHLOROBENZENE (NG/L)	BDL	BDL	BDL	DET'N LIMIT = 5,000	GUIDELINE = 38000 (D4)
	BDL	BDL	BDL	BDL	BDL

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

TREATMENT PLANT RAW	TREATMENT PLANT TREATED	DIST. SYSTEM DALHOUSIE ST FREE FLOW	DIST. SYSTEM DALHOUSIE ST STANDING	DIST. SYSTEM FORT ST FREE FLOW	DIST. SYSTEM FORT ST STANDING	DIST. SYSTEM MEDITERRANEAN FREE FLOW	DIST. SYSTEM MEDITERRANEAN STANDING
CHLOROAROMATICS (NG/L)							
HEXACHLOROBENZENE (NG/L)				DET'N LIMIT = 1,000		GUIDELINE = 10 (C1)	
1991 JAN	BDL	BDL	BDL				
1991 MAR	BDL	BDL	BDL				
1991 MAY	2,000 <T						
1991 JUL	BDL	!AW	!AW				
1991 SEP	!AW	!AW	!AW				
1991 NOV	BDL	BDL	BDL				
1992 JAN	BDL	BDL	BDL				
1992 MAR	BDL	BDL	BDL				
1992 MAY	BDL	BDL	BDL				
1992 SEP	BDL	BDL	BDL				
1992 NOV	BDL	BDL	BDL				
HEXACHLOROETHANE (NG/L)				DET'N LIMIT = 1,000		GUIDELINE = 1900 (D4)	
1991 JAN	BDL	BDL	BDL				
1991 MAR	BDL	BDL	BDL				
1991 MAY	BDL	BDL	BDL				
1991 JUL	BDL	!AW	!AW				
1991 SEP	!AW	!AW	!AW				
1991 NOV	BDL	BDL	BDL				
1992 JAN	BDL	2,000 <T					
1992 MAR	1,000 <T						
1992 MAY	BDL	4,000 <T					
1992 SEP	BDL	BDL	BDL				
1992 NOV	BDL	BDL	BDL				
OCTACHLOROSTYRENE (NG/L)				DET'N LIMIT = 1,000		GUIDELINE = N/A	
28 SAMPLES	BDL	BDL	BDL				
PENTACHLOROBENZENE (NG/L)				DET'N LIMIT = 1,000		GUIDELINE = 74000 (D4)	
28 SAMPLES	BDL	BDL	BDL				
236-TRICHLOROTOLUENE (NG/L)				DET'N LIMIT = 5,000		GUIDELINE = N/A	
28 SAMPLES	BDL	BDL	BDL				
245-TRICHLOROTOLUENE (NG/L)				DET'N LIMIT = 5,000		GUIDELINE = N/A	
28 SAMPLES	BDL	BDL	BDL				
264-TRICHLOROTOLUENE (NG/L)				DET'N LIMIT = 5,000		GUIDELINE = N/A	
28 SAMPLES	BDL	BDL	BDL				

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG JSS

DIST. SYSTEM RICHMOND ST FREE FLOW	DIST. SYSTEM RICHMOND ST STANDING	DIST. SYSTEM VENTNOR AVE FREE FLOW	DIST. SYSTEM VENTNOR AVE STANDING
CHLORODAROMATICS (NG/L)			
HEXACHLOROBENZENE (NG/L)			
1991 JAN			DET'N LIMIT = 1,000 GUIDELINE = 10 (C1)
1991 MAR	BDL		
1991 MAY	BDL		
1991 JUL			
1991 SEP	!AW		
1992 JAN	BDL		
1992 MAY			
1992 SEP			
HEXACHLOROETHANE (NG/L)	)		DET'N LIMIT = 1,000 GUIDELINE = 1900 (D4)
1991 JAN			
1991 MAR	BDL		
1991 MAY	BDL		
1991 JUL			
1991 SEP	!AW		
1992 JAN	BDL		
1992 MAY			
1992 SEP			
OCTACHLOROSTYRENE (NG/L)	)		DET'N LIMIT = 1,000 GUIDELINE = N/A
BDL			
PENTACHLOROBENZENE (NG/L)	)		DET'N LIMIT = 1,000 GUIDELINE = 74000 (D4)
BDL			
236 - TRICHLOROTOLUENE (NG/L)	)		DET'N LIMIT = 5,000 GUIDELINE = N/A
BDL			
245 - TRICHLOROTOLUENE (NG/L)	)		DET'N LIMIT = 5,000 GUIDELINE = N/A
BDL			
26A - TRICHLOROTOLUENE (NG/L)	)		DET'N LIMIT = 5,000 GUIDELINE = N/A
BDL			

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

TREATMENT PLANT RAW	TREATMENT PLANT TREATED	DIST. SYSTEM DALHOUSIE ST FREE FLOW	DIST. SYSTEM DALHOUSIE ST STANDING	DIST. SYSTEM FORT ST FREE FLOW	DIST. SYSTEM FORT ST STANDING	DIST. SYSTEM MEDITERRANEAN FREE FLOW	DIST. SYSTEM MEDITERRANEAN STANDING
CHLOROPHENOLS							
234-TRICHLOROPHENOL (NG/L)				DET'N LIMIT = 100.0		GUIDELINE = N/A	
6 SAMPLES	BOL	BOL					
2345-TECHLOROPHENOL (NG/L)	)			DET'N LIMIT = 20.0		GUIDELINE = N/A	
6 SAMPLES	BDL	BDL					
2356-TECHLOROPHENOL (NG/L)	)			DET'N LIMIT = 10.0		GUIDELINE = N/A	
6 SAMPLES	BDL	BDL					
245-TRICHLOROPHENOL (NG/L)	)			DET'N LIMIT = 100.0		GUIDELINE = 2600000 (04)	
6 SAMPLES	BDL	BDL					
246-TRICHLOROPHENOL (NG/L)	)			DET'N LIMIT = 20.0		GUIDELINE = 5000 (A1)	
6 SAMPLES	BDL	BDL					
PENTACHLOROPHENOL (NG/L)	)			DET'N LIMIT = 10.00		GUIDELINE = 60000 (A1)	
6 SAMPLES	BDL	BDL					

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

TREATMENT PLANT RAW	TREATMENT PLANT TREATED	DIST. SYSTEM DAHOUSIE ST FREE FLOW	DIST. SYSTEM FORT ST FREE FLOW	DIST. SYSTEM FORT ST STANDING	DIST. SYSTEM MEDITERRANEAN FREE FLOW		DIST. SYSTEM MEDITERRANEAN STANDING
					DET'N LIMIT = 1,000	GUIDELINE = 700 (A1)	
ALDRIN (NG/L)							
28 SAMPLES	BDL	BDL	BDL	BDL	BDL	BDL	BDL
ALPHA BHC (NG/L)	)			DET'N LIMIT = 1,000		GUIDELINE = 700 (G)	
1991 JAN	1,000 <T	BDL	BDL				
1991 MAR	2,000 <T	BDL	BDL				
1991 MAY		BDL	BDL				
1991 JUL		IAW	IAW				
1991 SEP		IAW	IAW				
1991 NOV		BDL	BDL				
1992 JAN	1,000 <T	BDL	BDL				
1992 MAR	2,000 <T	BDL	BDL				
1992 MAY		BDL	BDL				
1992 SEP		BDL	BDL				
1992 NOV		BDL	BDL				
BETA BHC (NG/L)							
28 SAMPLES	BDL	BDL	BDL	BDL	BDL	BDL	BDL
LINDANE (GAMMA BHC) (NG/L)	)			DET'N LIMIT = 1,000		GUIDELINE = 300 (G)	
1991 JAN	BDL	BDL	BDL				
1991 MAR	BDL	BDL	BDL				
1991 MAY	BDL	BDL	BDL				
1991 JUL	BDL	BDL	BDL				
1991 SEP		IAW	IAW				
1991 NOV		BDL	BDL				
1992 JAN		BDL	BDL				
1992 MAR	1,000 <T	BDL	BDL				
1992 MAY		BDL	BDL				
1992 SEP		BDL	BDL				
1992 NOV		BDL	BDL				
ALPHA CHLORDANE (NG/L)							
28 SAMPLES	BDL	BDL	BDL	BDL	BDL	BDL	BDL
GAMMA CHLORDANE (NG/L)	)			DET'N LIMIT = 2,000		GUIDELINE = 7000 (A1)	
28 SAMPLES	BDL	BDL	BDL	BDL	BDL	BDL	BDL
DIETERIN (NG/L)	)			DET'N LIMIT = 2,000		GUIDELINE = 700 (A1)	
28 SAMPLES	BDL	BDL	BDL	BDL	BDL	BDL	BDL

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

PESTICIDES AND PCB	DET'N LIMIT = 1,000	GUIDELINE = 700 (A1)
ALDRIN (NG/L)	BDL	BDL
ALPHA BHC (NG/L)	DET'N LIMIT = 1,000	GUIDELINE = 700 (G)
1991 JAN	BDL	BDL
1991 MAR	BDL	BDL
1991 MAY	BDL	BDL
1991 JUL	BDL	BDL
1991 SEP	BDL	BDL
1992 JAN	BDL	BDL
1992 MAY	BDL	BDL
1992 SEP	BDL	BDL
BETA BHC (NG/L)	DET'N LIMIT = 1,000	GUIDELINE = 300 (G)
LINDANE (GAMMA BHC) (NG/L)	DET'N LIMIT = 1,000	GUIDELINE = 4000 (A1)
1991 JAN	BDL	BDL
1991 MAR	BDL	BDL
1991 MAY	BDL	BDL
1991 JUL	BDL	BDL
1991 SEP	BDL	BDL
1992 JAN	BDL	BDL
1992 MAY	BDL	BDL
1992 SEP	BDL	BDL
ALPHA CHLORDANE (NG/L)	DET'N LIMIT = 2,000	GUIDELINE = 7000 (A1)
BDL	BDL	BDL
Gamma CHLORDANE (NG/L)	DET'N LIMIT = 2,00	GUIDELINE = 7000 (A1)
BDL	BDL	BDL
DIELDRIN (NG/L)	DET'N LIMIT = 2,00	GUIDELINE = 700 (A1)
BDL	BDL	BDL

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG MSS

TREATMENT PLANT TREATED RAW	TREATMENT PLANT TREATED	DIST. SYSTEM DALHOUSIE ST FREE FLOW	DIST. SYSTEM DALHOUSIE ST STANDING	DIST. SYSTEM FORT ST FREE FLOW	DIST. SYSTEM FORT ST STANDING	DIST. SYSTEM MEDITERRANEAN FREE FLOW	DIST. SYSTEM MEDITERRANEAN STANDING
METHOXYCHLOR (NG/L)	PESTICIDES AND PCB	DET'N LIMIT = 5.0		GUIDELINE = 900000 (A1)			
28 SAMPLES	BOL	BOL	BOL	BOL	BOL	BOL	BOL
ENDOSULFAN 1 (NG/L)		DET'N LIMIT = 2.00		GUIDELINE = 74000 (D4)			
28 SAMPLES	BOL	BOL	BOL	BOL	BOL	BOL	BOL
ENDOSULFAN 11 (NG/L)		DET'N LIMIT = 5.000		GUIDELINE = 74000 (D4)			
28 SAMPLES	BOL	BOL	BOL	BOL	BOL	BOL	BOL
ENDRIN (NG/L)		DET'N LIMIT = 5.000		GUIDELINE = 1600 (D3)			
28 SAMPLES	BOL	BOL	BOL	BOL	BOL	BOL	BOL
ENDOSULFAN SULPHATE (NG/L)		DET'N LIMIT = 5.00		GUIDELINE = N/A			
28 SAMPLES	BOL	BOL	BOL	BOL	BOL	BOL	BOL
HEPTACHLOR EPOXIDE (NG/L)		DET'N LIMIT = 1.000		GUIDELINE = 3000 (A1)			
20 SAMPLES	BOL	BOL	BOL	BOL	BOL	BOL	BOL
HEPTACHLOR (NG/L)		DET'N LIMIT = 1.000		GUIDELINE = 3000 (A1)			
28 SAMPLES	BOL	BOL	BOL	BOL	BOL	BOL	BOL
MIREX (NG/L)		DET'N LIMIT = 5.000		GUIDELINE = N/A			
28 SAMPLES	BOL	BOL	BOL	BOL	BOL	BOL	BOL
OXYCHLORDANE (NG/L)		DET'N LIMIT = 2.000		GUIDELINE = N/A			
28 SAMPLES	BOL	BOL	BOL	BOL	BOL	BOL	BOL
O,P-DDT (NG/L)		DET'N LIMIT = 5.000		GUIDELINE = 300000 (A1)			
28 SAMPLES	BOL	BOL	BOL	BOL	BOL	BOL	BOL
PCB (NG/L)		DET'N LIMIT = 20.00		GUIDELINE = 3000 (A2)			
28 SAMPLES	BOL	BOL	BOL	BOL	BOL	BOL	BOL
P,P-DDD (NG/L)		DET'N LIMIT = 5.000		GUIDELINE = 30000 (A1)			
28 SAMPLES	BOL	BOL	BOL	BOL	BOL	BOL	BOL

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

DIST. SYSTEM RICHMOND ST FREE FLOW STANDING	DIST. SYSTEM RICHMOND ST FREE FLOW	DIST. SYSTEM VENTNOR AVE FREE FLOW	DIST. SYSTEM VENTNOR AVE STANDING
PESTICIDES AND PCB (μ g/L)	DET'N LIMIT = 5.0	DET'N LIMIT = 5.0	GUIDELINE = 900000 (A1)
BDL	BDL	BDL	BDL
ENDOSULFAN 1 (μ g/L)	DET'N LIMIT = 2.00	DET'N LIMIT = 2.00	GUIDELINE = 74000 (D4)
BDL	BDL	BDL	BDL
ENDOSULFAN 11 (μ g/L)	DET'N LIMIT = 5.000	DET'N LIMIT = 5.000	GUIDELINE = 74000 (D4)
BDL	BDL	BDL	BDL
ENDRIN (μ g/L)	DET'N LIMIT = 5.000	DET'N LIMIT = 5.000	GUIDELINE = 1600 (D3)
BDL	BDL	BDL	BDL
ENDOSULFAN SULPHATE (μ g/L)	DET'N LIMIT = 5.00	DET'N LIMIT = 5.00	GUIDELINE = N/A
BDL	BDL	BDL	BDL
HEPTACHLOR EPOXIDE (μ g/L)	DET'N LIMIT = 1.000	DET'N LIMIT = 1.000	GUIDELINE = 3000 (A1)
BDL	BDL	BDL	BDL
HEPTACHLOR (μ g/L)	DET'N LIMIT = 1.000	DET'N LIMIT = 1.000	GUIDELINE = 3000 (A1)
BDL	BDL	BDL	BDL
MIREX (μ g/L)	DET'N LIMIT = 5.000	DET'N LIMIT = 5.000	GUIDELINE = N/A
BDL	BDL	BDL	BDL
OXYCHLORDANE (μ g/L)	DET'N LIMIT = 2.000	DET'N LIMIT = 2.000	GUIDELINE = N/A
BDL	BDL	BDL	BDL
O,P-DDT (μ g/L)	DET'N LIMIT = 5.000	DET'N LIMIT = 5.000	GUIDELINE = 30000 (A1)
BDL	BDL	BDL	BDL
PCB (μ g/L)	DET'N LIMIT = 20.00	DET'N LIMIT = 20.00	GUIDELINE = 30000 (A2)
BDL	BDL	BDL	BDL
P,P-DDD (μ g/L)	DET'N LIMIT = 5.000	DET'N LIMIT = 5.000	GUIDELINE = 30000 (A1)
BDL	BDL	BDL	BDL

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

TREATMENT PLANT RAW	TREATMENT PLANT TREATED	DIST. SYSTEM DALHOUSIE ST FREE FLOW	DIST. SYSTEM FORT ST FREE FLOW	DIST. SYSTEM FOR ST STANDING	DIST. SYSTEM MEDITERRANEAN FREE FLOW	DIST. SYSTEM MEDITERRANEAN STANDING
P, P-DDE (NG/L)	28 SAMPLES	BDL	BDL	BDL	BDL	BDL
P, P-DDT (NG/L)	28 SAMPLES	BDL	BDL	DET'N LIMIT = 5,000	GUIDELINE = 30000 (A1)	BDL
TOXAPHENE (NG/L)	21 SAMPLES	BDL	BDL	DET'N LIMIT = 500.0	GUIDELINE = 5000 (A1)	BDL
AMETRINE (NG/L)	18 SAMPLES	BDL	BDL	DET'N LIMIT = 50.0	GUIDELINE = 300000 (03)	BDL
ATRAZINE (NG/L)	18 SAMPLES	BDL	BDL	DET'N LIMIT = 50.0	GUIDELINE = 60000 (A2)	BDL
CYANAZINE (BLADEX) (NG/L)	17 SAMPLES	BDL	BDL	DET'N LIMIT = 100.0	GUIDELINE = 10000 (A2)	BDL
DESETHYL ATRAZINE (NG/L)	17 SAMPLES	BDL	BDL	DET'N LIMIT = 200.0	GUIDELINE = 60000 (A2)	BDL
DESETHYL SIMAZINE (NG/L)	18 SAMPLES	BDL	BDL	DET'N LIMIT = 200.0	GUIDELINE = 10000 (A2)	BDL

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

	DIST. SYSTEM RICHMOND ST FREE FLOW	DIST. SYSTEM RICHMOND ST STANDING	DIST. SYSTEM VENTNOR AVE FREE FLOW	DIST. SYSTEM VENTNOR AVE STANDING
P,P-ODE (NG/L)	PESTICIDES AND PCB BOL	DET'N LIMIT = 1.000 BOL		GUIDELINE = 30000 (A1)
P,P-DDT (NG/L)	) BOL	DET'N LIMIT = 5,000 BOL		GUIDELINE = 30000 (A1)
TOXAPHENE (NG/L)	) BOL	DET'N LIMIT = 500.0 BOL		GUIDELINE = 5000 (A1)

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM
1991 AND 1992 AMHERSTBURG WSS

TREATMENT PLANT RAW	TREATMENT PLANT TREATED	DIST. SYSTEM DAHOUIS ST FREE FLOW	DIST. SYSTEM DAHOUIS ST STANDING	DIST. SYSTEM FORT ST FREE FLOW	DIST. SYSTEM FORT ST STANDING	DIST. SYSTEM MEDITERRANEAN FREE FLOW	DIST. SYSTEM MEDITERRANEAN STANDING
PROMETONE (NG/L)				DET'N LIMIT = 50.000		GUIDELINE = 52500 (D3)	
17 SAMPLES	BDL	BDL					
PROPAZINE (NG/L)				DET'N LIMIT = 50.000		GUIDELINE = 700000 (D3)	
17 SAMPLES	BDL	BDL					
PROMETRINE (NG/L)				DET'N LIMIT = 50.000		GUIDELINE = 1000 (A2)	
18 SAMPLES	BDL	BDL					
METRIBUZIN (SENCOR) (NG/L)				DET'N LIMIT = 100.0		GUIDELINE = 80000 (A1)	
17 SAMPLES	BDL	BDL					
SIMAZINE (NG/L)				DET'N LIMIT = 50.00		GUIDELINE = 10000 (A2)	
17 SAMPLES	BDL	BDL					
ALACHLOR (LASSO) (NG/L)				DET'N LIMIT = 500.0		GUIDELINE = 5000 (A2)	
17 SAMPLES	BDL	BDL					
METOACHLOR (NG/L)				DET'N LIMIT = 500.0		GUIDELINE = 50000 (A2)	
18 SAMPLES	BDL	BDL					
HEA/CLO/TCOPEN/TADEN (NG/L)				DET'N LIMIT = 5.00		GUIDELINE = 206000 (D4)	
1991 JAN	BDL	BDL		BDL			
1991 MAR	BDL	21.000 < T					
1991 MAY	BDL	31.000 < T					
1991 JUL	BDL	IAW		IAW			
1991 SEP	IAW	IAW					
1991 NOV	BDL	10.000 < T					
1992 JAN	BDL	14.000 < T					
1992 MAR	IAU	IAU		IAU			
1992 MAY	IAU	IAU		IAU			
1992 SEP	IAU	IAU		IAU			
1992 NOV	IAU	IAU		IAU			

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

DIST. SYSTEM RICHMOND ST FREE FLOW	DIST. SYSTEM RICHMOND ST STANDING	DIST. SYSTEM VENINOR AVE FREE FLOW	DIST. SYSTEM VENINOR AVE STANDING	PESTICIDES AND PCB		DET/N LIMIT = 5.00	GUIDELINE = 206000 (D4)
				HEXACYCLOPENTADIEN (NG/L)	DET/N LIMIT = 25.00		
1991 JAN	.	.	.	.	25.000 <1	.	.
1991 MAR	BDL	.	.	.	.	.	.
1991 MAY	BDL	.	.	.	.	.	.
1991 JUL	.	1AW	.	.	.	.	.
1991 SEP	1AW	.	.	.	.	.	.
1992 JAN	BDL	.	.	.	.	.	.
1992 MAY	.	1QU	.	.	.	.	.
1992 SEP	.	1QU	.	.	.	.	.

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

TREATMENT PLANT RAW	TREATMENT PLANT TREATED	DIST. SYSTEM DAHLHUSIE ST FREE FLOW		DIST. SYSTEM FORT ST FREE FLOW		DIST. SYSTEM FORT ST STANDING		DIST. SYSTEM MEDITERRANEAN FREE FLOW	
		PHENOLICS (UG/L)	DET'N LIMIT = 0.2	PHENOLICS)	DET'N LIMIT = 0.2	PHENOLICS)	DET'N LIMIT = 0.2	PHENOLICS)	DET'N LIMIT = 0.2
1991 JAN		.600 <T	BDL						
1991 MAR		BDL	.400 <T						
1991 MAY		.400 <T	1.200						
1991 JUL		BDL							
1991 SEP		BDL							
1991 NOV		.600 <T	.400 <T						
1992 JAN		.400 <T	BDL						
1992 MAR		BDL	.400 <T						
1992 MAY		1.000 <T	.400 <T						
1992 JUL		.400 <T	BDL						
1992 SEP		BDL							
1992 NOV		.400 <T	.600 <T						

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

TREATMENT PLANT RAW	TREATMENT PLANT TREATED	DIST. SYSTEM DALHOUSIE ST FREE FLOW	DIST. SYSTEM DALHOUSIE ST STANDING	DIST. SYSTEM FORT ST FREE FLOW	DIST. SYSTEM FORT ST STANDING	DIST. SYSTEM MEDITERRANEAN FREE FLOW	DIST. SYSTEM MEDITERRANEAN STANDING
POLYAROMATIC HYDROCARBONS							
PHENANTHRENE (NG/L)			DET'N LIMIT = 10.0			GUIDELINE = N/A	
12 SAMPLES	BDL	BDL	BDL	BDL			
ANTHRACENE (NG/L)			DET'N LIMIT = 1.0			GUIDELINE = N/A	
12 SAMPLES	BDL	BDL	BDL	BDL			
FLUORANTHENE (NG/L)			DET'N LIMIT = 20.0			GUIDELINE = 42000 (D4)	
12 SAMPLES	BDL	BDL	BDL	BDL			
PYRENE (NG/L)			DET'N LIMIT = 20.0			GUIDELINE = N/A	
12 SAMPLES	BDL	BDL	BDL	BDL			
BENZO(A)ANTHRACENE (NG/L)			DET'N LIMIT = 20.0			GUIDELINE = N/A	
12 SAMPLES	BDL	BDL	BDL	BDL			
CHRYSENE (NG/L)			DET'N LIMIT = 50.0			GUIDELINE = N/A	
12 SAMPLES	BDL	BDL	BDL	BDL			
DIMETH. BENZ(A)ANTHR (NG/L)			DET'N LIMIT = 5.0			GUIDELINE = N/A	
12 SAMPLES	BDL	BDL	BDL	BDL			
BENZO(E) PYRENE (NG/L)			DET'N LIMIT = 50.0			GUIDELINE = N/A	
12 SAMPLES	BDL	BDL	BDL	BDL			
BENZO(B) FLUORANTHEN (NG/L)			DET'N LIMIT = 10.0			GUIDELINE = N/A	
12 SAMPLES	BDL	BDL	BDL	BDL			
PERYLENE (NG/L)			DET'N LIMIT = 10.0			GUIDELINE = N/A	
12 SAMPLES	BDL	BDL	BDL	BDL			
BENZO(K) FLUORANTHEN (NG/L)			DET'N LIMIT = 1.0			GUIDELINE = N/A	
12 SAMPLES	BDL	BDL	BDL	BDL			
BENZO(A) PYRENE (NG/L)			DET'N LIMIT = 5.0			GUIDELINE = 10 (A1)	
12 SAMPLES	BDL	BDL	BDL	BDL			

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

	DIST. SYSTEM RICHMOND ST FREE FLOW	DIST. SYSTEM RICHMOND ST STANDING	DIST. SYSTEM VENTNOR AVE FREE FLOW	DIST. SYSTEM VENTNOR AVE STANDING
PHENANTHRENE (NG/L)	DET'N LIMIT = 10.0	DET'N LIMIT = 10.0	DET'N LIMIT = 10.0	GUIDELINE = N/A
ANTHACENE (NG/L)	BDL	BDL	BDL	GUIDELINE = N/A
FLUORANTHENE (NG/L)	BDL	BDL	DET'N LIMIT = 20.0	GUIDELINE = 42000 (D4)
PYRENE (NG/L)	BDL	BDL	DET'N LIMIT = 20.0	GUIDELINE = N/A
BENZO(A)ANTHACENE (NG/L)	BDL	BDL	DET'N LIMIT = 20.0	GUIDELINE = N/A
CARYSENE (NG/L)	BDL	BDL	DET'N LIMIT = 50.0	GUIDELINE = N/A
DIMETH. BENZ(A)ANTHR (NG/L)	BDL	BDL	DET'N LIMIT = 5.0	GUIDELINE = N/A
BENZO(E) PYRENE (NG/L)	BDL	BDL	DET'N LIMIT = 50.0	GUIDELINE = N/A
BENZO(B) FLUORANTHEN (NG/L)	BDL	BDL	DET'N LIMIT = 10.0	GUIDELINE = N/A
PERYLENE (NG/L)	BDL	BDL	DET'N LIMIT = 10.0	GUIDELINE = N/A
BENZO(K) FLUORANTHEN (NG/L)	BDL	BDL	DET'N LIMIT = 1.0	GUIDELINE = N/A
BENZO(A) PYRENE (NG/L)	BDL	BDL	DET'N LIMIT = 5.0	GUIDELINE = 10 (A1)

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

TREATMENT PLANT RAW	TREATMENT PLANT TREATED	DIST. SYSTEM DALHOUSIE ST FREE FLOW	DIST. SYSTEM FORT ST FREE FLOW	DIST. SYSTEM FORT ST STANDING	DIST. SYSTEM MEDITERRANEAN FREE FLOW	DIST. SYSTEM MEDITERRANEAN STANDING
POLYAROMATIC HYDROCARBONS						
BENZO(G,H,I) PERYLEN (NG/L)			DET'N LIMIT = 20.0	GUIDELINE = N/A		
12 SAMPLES	BDL	BDL	BDL			
DIBENZO(A,H) ANTHRAC (NG/L)			DET'N LIMIT = 10.0	GUIDELINE = N/A		
12 SAMPLES	BDL	BDL	BDL			
INDENO(1,2,3-C,D) PY (NG/L)			DET'N LIMIT = 20.0	GUIDELINE = N/A		
12 SAMPLES	BDL	BDL	BDL			
BENZO(B) CHRYSENE (NG/L)			DET'N LIMIT = 2.0	GUIDELINE = N/A		
12 SAMPLES	BDL	BDL	BDL			
CORONENE (NG/L)			DET'N LIMIT = 10.0	GUIDELINE = N/A		
12 SAMPLES	BDL	BDL	BDL			

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG U.S.S.

DIST. SYSTEM RICHMOND ST FREE FLOW	DIST. SYSTEM RICHMOND ST STANDING	DIST. SYSTEM VENTNOR AVE FREE FLOW	DIST. SYSTEM VENTNOR AVE STANDING
POLYAROMATIC HYDROCARBONS	DET'N LIMIT = 20.0		GUIDELINE = N/A
BENZO(G, H, I) PERYLEN (NG/L)	BDL	BDL	BDL
DI(BENZO(A, H) ANTHRAC (NG/L)		DET'N LIMIT = 10.0	GUIDELINE = N/A
BDL		BDL	
INDENO(1,2,3-C,D) PY (NG/L)		DET'N LIMIT = 20.0	GUIDELINE = N/A
BDL		BDL	
BENZO(B) CHRYSENE (NG/L)		DET'N LIMIT = 2.0	GUIDELINE = N/A
BDL		BDL	
CORONENE (NG/L)		DET'N LIMIT = 10.0	GUIDELINE = N/A
BDL		BDL	

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

TREATMENT PLANT RAW	TREATMENT PLANT TREATED	DIST. SYSTEM DALHOUSIE ST FREE FLOW	DIST. SYSTEM FORT ST STANDING	DIST. SYSTEM FORT ST FREE FLOW	DIST. SYSTEM MEDITERRANEAN FREE FLOW	DIST. SYSTEM MEDITERRANEAN STANDING
SPECIFIC PESTICIDES						
TOKAPHENE (NG/L)			DET'N LIMIT = 500.0		GUIDELINE = 5000 (A1)	
7 SAMPLES	BDL	BDL	BDL			
2,4,5-T (NG/L)			DET'N LIMIT = 50.0		GUIDELINE = 280000 (A1)	
6 SAMPLES	BDL	BDL				
2,4,0 (NG/L)			DET'N LIMIT = 100.0		GUIDELINE = 100000 (A1)	
6 SAMPLES	BDL	BDL				
2,4,4-DB (NG/L)			DET'N LIMIT = 200.0		GUIDELINE = N/A	
6 SAMPLES	BDL	BDL				
2,4-D PROPYONIC ACID (NG/L)			DET'N LIMIT = 100.0		GUIDELINE = N/A	
6 SAMPLES	BDL	BDL				
DICAMBIA (NG/L)			DET'N LIMIT = 50.0		GUIDELINE = 120000 (A1)	
6 SAMPLES	BDL	BDL				
2,4,5-TP (SILVEX) (NG/L)			DET'N LIMIT = 20.00		GUIDELINE = 10000 (A1)	
6 SAMPLES	BDL	BDL				
DIAZINON (NG/L)			DET'N LIMIT = 20.0		GUIDELINE = 20000 (A1)	
6 SAMPLES	BDL	BDL				
DICHLORDOVOX (NG/L)			DET'N LIMIT = 20.0		GUIDELINE = N/A	
6 SAMPLES	BDL	BDL				
CHLORPRIFOS (NG/L)			DET'N LIMIT = 20.0		GUIDELINE = N/A	
6 SAMPLES	BDL	BDL				
ETHION (NG/L)			DET'N LIMIT = 20.0		GUIDELINE = 35000 (G)	
6 SAMPLES	BDL	BDL				
MALATHION (NG/L)			DET'N LIMIT = 20.0		GUIDELINE = 190000 (A1)	
6 SAMPLES	BDL	BDL				

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

DIST. SYSTEM RICHMOND ST FREE FLOW	DIST. SYSTEM RICHMOND ST STANDING	DIST. SYSTEM VENTNOR AVE FREE FLOW	DIST. SYSTEM VENTNOR AVE STANDING	SPECIFIC PESTICIDES	
				DET'N LIMIT = 500.0	GUIDELINE = 5000 (A1)
TOXAPHENE (NG/L)	BOL	BOL	BOL		

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

RAW TREATMENT PLANT SAMPLES	TREATED PLANT SAMPLES	DIST. SYSTEM DALHOUSIE ST FREE FLOW	DIST. SYSTEM FORT ST FREE FLOW	DIST. SYSTEM FORT ST STANDING	DIST. SYSTEM MEDITERRANEAN FREE FLOW	DIST. SYSTEM MEDITERRANEAN STANDING
SPECIFIC PESTICIDES						
MEVINPHOS (NG/L) 6 SAMPLES	BDL	BDL	DET'N LIMIT = 20.0	GUIDELINE = N/A		
METHYL PARATHION (NG/L) 6 SAMPLES	BDL	BDL	DET'N LIMIT = 50.0	GUIDELINE = 9000 (03)		
METHYLTRITHION (NG/L) 6 SAMPLES	BDL	BDL	DET'N LIMIT = 20.0	GUIDELINE = N/A		
PARTHION (NG/L) 6 SAMPLES	BDL	BDL	DET'N LIMIT = 20.0	GUIDELINE = 50000 (A1)		
PHORATE (NG/L) 6 SAMPLES	BDL	BDL	DET'N LIMIT = 20.0	GUIDELINE = 2000 (A2)		
RELDAN (NG/L) 6 SAMPLES	BDL	BDL	DET'N LIMIT = 20.0	GUIDELINE = N/A		
RONNELL (NG/L) 6 SAMPLES	BDL	BDL	DET'N LIMIT = 20.0	GUIDELINE = N/A		
CARBOFURAN (NG/L) 6 SAMPLES	BDL	BDL	DET'N LIMIT = 2000.0	GUIDELINE = 90000 (A1)		
CHLORPROPHAM (CIPC) (NG/L) 6 SAMPLES	BDL	BDL	DET'N LIMIT = 2000.0	GUIDELINE = 350000 (G)		
DIALLATE (NG/L) 6 SAMPLES	BDL	BDL	DET'N LIMIT = 2000.0	GUIDELINE = N/A		
EPTAM (NG/L) 6 SAMPLES	BDL	BDL	DET'N LIMIT = 2000.0	GUIDELINE = N/A		
IPC (NG/L) 6 SAMPLES	BDL	BDL	DET'N LIMIT = 2000.0	GUIDELINE = N/A		

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

TREATMENT PLANT RAW	TREATMENT PLANT TREATED	DIST. SYSTEM DALHOUSIE ST FREE FLOW	DIST. SYSTEM DALHOUSIE ST STANDING	DIST. SYSTEM FORT ST FREE FLOW	DIST. SYSTEM FORT ST STANDING	DIST. SYSTEM MEDITERRANEAN FREE FLOW	DIST. SYSTEM MEDITERRANEAN STANDING
SPECIFIC PESTICIDES							
PROPOXUR (NG/L)	)		DET'N LIMIT = 2000.0		GUIDELINE = 140000 (D3)		
6 SAMPLES	BDL	BDL					
CARBARYL (NG/L)	)		DET'N LIMIT = 200.0		GUIDELINE = 90000 (A1)		
6 SAMPLES	BDL	BDL					
BUTYLATE (NG/L)	)		DET'N LIMIT = 2000.0		GUIDELINE = 245000 (D3)		
6 SAMPLES	BDL	BDL					

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

TREATMENT PLANT RAW	TREATMENT PLANT TREATED	DIST. SYSTEM DALHOUSIE ST FREE FLOW			DIST. SYSTEM FORT ST FREE FLOW			DIST. SYSTEM FORT ST STANDING			DIST. SYSTEM MEDITERRANEAN FREE FLOW			DIST. SYSTEM MEDITERRANEAN STANDING		
		VOLATILES)	DET'N LIMIT = 0.05	GUIDELINE = 5 (A3)	VOLATILES)	DET'N LIMIT = 0.05	GUIDELINE = 24 (A3)	VOLATILES)	DET'N LIMIT = 0.05	GUIDELINE = 2.4 (A3)	VOLATILES)	DET'N LIMIT = 0.05	GUIDELINE = 300 (A3*)	VOLATILES)	DET'N LIMIT = 0.10	GUIDELINE = 300 (A3*)
BENZENE (UG/L)	37 SAMPLES	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
TOLUENE (UG/L))															
1991 JAN	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1991 MAR	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1991 MAY	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1991 JUL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1991 SEP	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1991 NOV	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1992 JAN	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1992 MAR	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1992 MAY	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1992 JUL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1992 SEP	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1992 NOV	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
ETHYLBENZENE (UG/L))															
1991 JAN	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1991 MAR	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1991 MAY	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1991 JUL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1991 SEP	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1991 NOV	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1992 JAN	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1992 MAR	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1992 MAY	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1992 JUL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1992 SEP	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1992 NOV	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
P-XYLENE (UG/L))															
1991 JAN	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1991 MAR	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1991 MAY	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1991 JUL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1991 SEP	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1991 NOV	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1992 JAN	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1992 MAR	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1992 MAY	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1992 JUL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1992 SEP	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1992 NOV	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

DIST. SYSTEM RICHMOND ST FREE FLOW		DIST. SYSTEM VENINOR AVE STANDING		DIST. SYSTEM VENINOR AVE STANDING	
BENZENE (UG/L)	VOLATILES)	BDL	DET'N LIMIT = 0.05	BDL	DET'N LIMIT = 0.05
TOLUENE (UG/L)	)	BDL	DET'N LIMIT = 0.05	BDL	DET'N LIMIT = 24 (A3)
1991 JAN	BDL	BDL	DET'N LIMIT = 0.05	BDL	DET'N LIMIT = 24 (A3)
1991 MAR	BDL	BDL	DET'N LIMIT = 0.05	BDL	DET'N LIMIT = 24 (A3)
1991 MAY	BDL	BDL	DET'N LIMIT = 0.05	BDL	DET'N LIMIT = 24 (A3)
1991 JUL	BDL	BDL	DET'N LIMIT = 0.05	BDL	DET'N LIMIT = 24 (A3)
1991 SEP	BDL	BDL	DET'N LIMIT = 0.05	BDL	DET'N LIMIT = 24 (A3)
1992 JAN	BDL	BDL	DET'N LIMIT = 0.05	BDL	DET'N LIMIT = 24 (A3)
1992 MAY	BDL	BDL	DET'N LIMIT = 0.05	BDL	DET'N LIMIT = 24 (A3)
1992 SEP	BDL	BDL	DET'N LIMIT = 0.05	BDL	DET'N LIMIT = 24 (A3)
ETHYLBENZENE (UG/L)	)	BDL	DET'N LIMIT = 0.05	BDL	DET'N LIMIT = 2.4 (A3)
1991 JAN	BDL	BDL	DET'N LIMIT = 0.05	BDL	DET'N LIMIT = 2.4 (A3)
1991 MAR	BDL	BDL	DET'N LIMIT = 0.05	BDL	DET'N LIMIT = 2.4 (A3)
1991 MAY	.150 <T	.150 <T	DET'N LIMIT = 0.05	.050 <T	DET'N LIMIT = 2.4 (A3)
1991 JUL	BDL	BDL	DET'N LIMIT = 0.05	BDL	DET'N LIMIT = 2.4 (A3)
1991 SEP	.150 <T	.150 <T	DET'N LIMIT = 0.05	.050 <T	DET'N LIMIT = 2.4 (A3)
1992 JAN	.100 <T	.100 <T	DET'N LIMIT = 0.05	.200 <T	DET'N LIMIT = 2.4 (A3)
1992 MAY	BDL	BDL	DET'N LIMIT = 0.05	.250 <T	DET'N LIMIT = 2.4 (A3)
1992 SEP	BDL	BDL	DET'N LIMIT = 0.05	BDL	DET'N LIMIT = 2.4 (A3)
P-XYLENE (UG/L)	)	BDL	DET'N LIMIT = 0.10	BDL	DET'N LIMIT = 300 (A3*)
1991 JAN	BDL	BDL	DET'N LIMIT = 0.10	BDL	DET'N LIMIT = 300 (A3*)
1991 MAR	BDL	BDL	DET'N LIMIT = 0.10	BDL	DET'N LIMIT = 300 (A3*)
1991 MAY	.150 <T	.150 <T	DET'N LIMIT = 0.10	.050 <T	DET'N LIMIT = 300 (A3*)
1991 JUL	BDL	BDL	DET'N LIMIT = 0.10	BDL	DET'N LIMIT = 300 (A3*)
1991 SEP	.150 <T	.150 <T	DET'N LIMIT = 0.10	.050 <T	DET'N LIMIT = 300 (A3*)
1992 JAN	.100 <T	.100 <T	DET'N LIMIT = 0.10	.200 <T	DET'N LIMIT = 300 (A3*)
1992 MAY	BDL	BDL	DET'N LIMIT = 0.10	.250 <T	DET'N LIMIT = 300 (A3*)
1992 SEP	BDL	BDL	DET'N LIMIT = 0.10	BDL	DET'N LIMIT = 300 (A3*)

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 ANHERSTBURG WSS

TREATMENT PLANT RAW	TREATMENT PLANT TREATED	DIST. SYSTEM		DIST. SYSTEM		DIST. SYSTEM		DIST. SYSTEM	
		DALHOUSIE ST FREE FLOW	STANDING	DALHOUSIE ST FREE FLOW	STANDING	FORT ST FREE FLOW	STANDING	MEDITERRANEAN FREE FLOW	STANDING
M-XYLENE (UG/L)									
1991 JAN	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1991 MAR	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1991 MAY	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1991 JUL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1991 SEP	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1991 NOV	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1992 JAN	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1992 MAR	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1992 MAY	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1992 JUL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1992 SEP	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1992 NOV	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
GUIDELINE = 300 (A3*)									
O-XYLENE (UG/L)									
1991 JAN	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1991 MAR	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1991 MAY	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1991 JUL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1991 SEP	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1991 NOV	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1992 JAN	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1992 MAR	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1992 MAY	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1992 JUL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1992 SEP	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1992 NOV	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
GUIDELINE = 300 (A3*)									
STYRENE (UG/L)									
1991 JAN	.050 <T	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1991 MAR	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1991 MAY	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1991 JUL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1991 SEP	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1991 NOV	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1992 JAN	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1992 MAR	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1992 MAY	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1992 JUL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1992 SEP	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1992 NOV	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
GUIDELINE = 100 (D1)									
1,1-DICHLOROETHYLENE (UG/L)									
37 SAMPLES	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
GUIDELINE = 7 (D1)									

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

DIST. SYSTEM RICHMOND ST FREE FLOW		DIST. SYSTEM VENTNOR AVE FREE FLOW		DIST. SYSTEM VENTNOR AVE STANDING	
VOLATILES (UG/L)		DET'N LIMIT = 0.10		GUIDELINE = 300 (A3*)	
1991 JAN	BDL		BDL		
1991 MAR	BDL		BDL		
1991 MAY	BDL		BDL		
1991 JUL	.100 <T		BDL		
1991 SEP	BDL		BDL		
1992 JAN	BDL		BDL <T		
1992 MAY			.400 <T		
1992 SEP					
DET'N LIMIT = 0.05		GUIDELINE = 300 (A3*)		GUIDELINE = 300 (A3*)	
1991 JAN	BDL		BDL		
1991 MAR	BDL		BDL		
1991 MAY	BDL		BDL		
1991 JUL			BDL		
1991 SEP	BDL		BDL		
1992 JAN	BDL		BDL		
1992 MAY			.150 <T		
1992 SEP					
DET'N LIMIT = 0.05		GUIDELINE = 100 (01)		GUIDELINE = 100 (01)	
1991 JAN	BDL		BDL		
1991 MAR	.150 <T				
1991 MAY	.250 <T				
1991 JUL			.100 <T		
1991 SEP			.200 <T		
1992 JAN			.300 <T		
1992 MAY					
1992 SEP					
DET'N LIMIT = 0.100		GUIDELINE = 7 (01)		GUIDELINE = 7 (01)	
1,1-DICHLOROETHYLENE (UG/L)	BDL		BDL		

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 ANHERSTBURG WSS

TREATMENT PLANT RAW	TREATMENT PLANT TREATED	DIST. SYSTEM DAHQUIST ST FREE FLOW	DIST. SYSTEM FORT ST FREE FLOW	DIST. SYSTEM FORT ST STANDING	DIST. SYSTEM MEDITERRANEAN FREE FLOW	DIST. SYSTEM MEDITERRANEAN STANDING
METHYLENE CHLORIDE (UG/L)		DET'N LIMIT = 0.50		GUIDELINE = 50 (A1)		
37 SAMPLES	BDL	BDL	BDL	BDL	BDL	BDL
112-DICHLOROETHYLENE (UG/L)		DET'N LIMIT = 0.10		GUIDELINE = 70 (D1)		
37 SAMPLES	BDL	BDL	BDL	BDL	BDL	BDL
1,1-DICHLOROETHANE (UG/L)		DET'N LIMIT = 0.100		GUIDELINE = N/A		
37 SAMPLES	BDL	BDL	BDL	BDL	BDL	BDL
CHLOROFORM (UG/L)		DET'N LIMIT = 0.10		GUIDELINE = 350 (A1+)		
1991 JAN	BDL	11.100	6.400			
1991 MAR	BDL	13.200				
1991 MAY	<T	17.300				
1991 JUL	<T	11.300	9.900			
1991 SEP	<T	10.300				
1991 NOV	BDL	5.500				
1992 JAN	BDL	7.200				
1992 MAR	BDL	15.800				
1992 MAY	BDL	10.700				
1992 JUL	BDL	7.900				
1992 SEP	BDL	35.100				
1992 NOV	BDL	9.000				
111, TRICHLOROETHANE (UG/L)		DET'N LIMIT = 0.02		GUIDELINE = 200 (D1)		
37 SAMPLES	BDL	BDL	BDL	BDL	BDL	BDL
1,2-DICHLOROETHANE (UG/L)		DET'N LIMIT = 0.05		GUIDELINE = 5 (A1)		
37 SAMPLES	BDL	BDL	BDL	BDL	BDL	BDL
CARBON TETRACHLORIDE (UG/L)		DET'N LIMIT = 0.20		GUIDELINE = 5 (A1)		
37 SAMPLES	BDL	BDL	BDL	BDL	BDL	BDL
1,2-DICHLOROPROPANE (UG/L)		DET'N LIMIT = 0.05		GUIDELINE = 5 (D1)		
37 SAMPLES	BDL	BDL	BDL	BDL	BDL	BDL
TRICHLOROETHYLENE (UG/L)		DET'N LIMIT = 0.10		GUIDELINE = 50 (A1)		
37 SAMPLES	BDL	BDL	BDL	BDL	BDL	BDL

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

DIST. SYSTEM RICHMOND ST FREE FLOW	DIST. SYSTEM RICHMOND ST STANDING	DIST. SYSTEM VENTNOR AVE FREE FLOW	DIST. SYSTEM VENTNOR AVE STANDING
VOLATILES METHYLENE CHLORIDE (UG/L)	DET'N LIMIT = 0.50	DET'N LIMIT = 0.50	GUIDELINE = 50 (A1)
BDL	BDL	BDL	BDL
112-DICHLOROETHYLENE (UG/L)	DET'N LIMIT = 0.10	DET'N LIMIT = 0.10	GUIDELINE = 70 (D1)
BDL	BDL	BDL	BDL
1,1-DICHLOROETHANE (UG/L)	DET'N LIMIT = 0.100	DET'N LIMIT = 0.100	GUIDELINE = N/A
BDL	BDL	BDL	BDL
CHLOROFORM (UG/L)	DET'N LIMIT = 0.10	DET'N LIMIT = 0.10	GUIDELINE = 350 (A1+)
1991 JAN 1991 MAR 1991 MAY 1991 JUL 1991 SEP 1992 JAN 1992 MAY 1992 SEP	8,000 18,000 11,500 3,900 10,500 27,300	9,100 10,600	
111,TRICHLOROETHANE (UG/L)	DET'N LIMIT = 0.02	DET'N LIMIT = 0.02	GUIDELINE = 200 (D1)
BDL	BDL	BDL	BDL
1,2-DICHLOROETHANE (UG/L)	DET'N LIMIT = 0.05	DET'N LIMIT = 0.05	GUIDELINE = 5 (A1)
BDL	BDL	BDL	BDL
CARBON TETRACHLORIDE (UG/L)	DET'N LIMIT = 0.20	DET'N LIMIT = 0.20	GUIDELINE = 5 (A1)
BDL	BDL	BDL	BDL
1,2-DICHLOROPROPANE (UG/L)	DET'N LIMIT = 0.05	DET'N LIMIT = 0.05	GUIDELINE = 5 (D1)
BDL	BDL	BDL	BDL
TRICHLOROETHYLENE (UG/L)	DET'N LIMIT = 0.10	DET'N LIMIT = 0.10	GUIDELINE = 50 (A1)
BDL	BDL	BDL	BDL

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

TREATMENT PLANT RAW	TREATMENT PLANT TREATED	DIST. SYSTEM DALHOUSIE ST FREE FLOW	DIST. SYSTEM DALHOUSIE ST STANDING	DIST. SYSTEM FORT ST FREE FLOW	DIST. SYSTEM FORT ST STANDING	DIST. SYSTEM MEDITERRANEAN FREE FLOW	DIST. SYSTEM MEDITERRANEAN STANDING
VOLATILES							
DICHLOROBROMOMETHANE (UG/L)				DET'N LIMIT = 0.05		GUIDELINE = 350 (A1+)	
1991 JAN	BDL	8,400	4,100				
1991 MAR	BDL	8,400					
1991 MAY	.150 <1	11,200					
1991 JUL	BDL	6,300	5,250				
1991 SEP	BDL	6,000					
1991 NOV	BDL	6,000					
1992 JAN	BDL	7,750					
1992 MAR	BDL	10,750					
1992 MAY	BDL	8,300					
1992 JUL	BDL	10,050					
1992 SEP	BDL	10,250					
1992 NOV	BDL	7,750					
112-TRICHLOROETHANE (UG/L)							
37 SAMPLES	BDL	BDL	BDL	DET'N LIMIT = 0.05		GUIDELINE = 0.6 (04)	
CHLORODIBROMOMETHANE (UG/L)				DET'N LIMIT = 0.10		GUIDELINE = 350 (A1+)	
1991 JAN	BDL						
1991 MAR	BDL	3,300	1,900				
1991 MAY	BDL	3,200					
1991 JUL	BDL	3,700					
1991 SEP	BDL	2,600	2,500				
1991 NOV	BDL	3,400					
1992 JAN	BDL	4,200					
1992 MAR	BDL	4,600					
1992 MAY	BDL	5,100					
1992 JUL	BDL	4,500					
1992 SEP	BDL	7,500					
1992 NOV	BDL	1,900					
		3,500					
TETRACHLOROETHYLENE (UG/L)							
37 SAMPLES	BDL	BDL	BDL	DET'N LIMIT = 0.05		GUIDELINE = 65 (A5)	
					BDL	BDL	BDL

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

TREATMENT PLANT RAW	TREATMENT PLANT TREATED	DIST. SYSTEM DALHOUSIE ST FREE FLOW	DIST. SYSTEM DALHOUSIE ST STANDING	DIST. SYSTEM FORT ST FREE FLOW	DIST. SYSTEM FORT ST STANDING	DIST. SYSTEM MEDITERRANEAN FREE FLOW	DIST. SYSTEM MEDITERRANEAN STANDING
VOLATILES							
BRONFORM (UG/L)			DET'N LIMIT = 0.20			GUIDELINE = 350 (A1+)	
1991 JAN	BDL	BDL	BDL				
1991 MAR	BDL	.200 < T					
1991 MAY	BDL	.400 < T					
1991 JUL	BDL	BDL	BDL				
1991 SEP	BDL	.400 < T					
1991 NOV	BDL	.600 < T					
1992 JAN	BDL	BDL					
1992 MAR	BDL	BDL					
1992 MAY	BDL	1.400 < T					
1992 JUL	BDL						
1992 SEP	BDL	BDL					
1992 NOV	BDL	BDL					
1122-ETCHLOROETHANE (UG/L)							
37 SAMPLES	BDL	BDL	BDL			GUIDELINE = 0.17 (D4)	
VINYL CHLORIDE (UG/L)			DET'N LIMIT = 0.05			BDL	
15 SAMPLES	BDL	BDL	BDL			BDL	
C12-DICHLOROETHYLENE (UG/L)			DET'N LIMIT = 0.100			GUIDELINE = 2 (D1)	
15 SAMPLES	BDL	BDL	BDL			BDL	
CHLOROBENZENE (UG/L)			DET'N LIMIT = 0.100			GUIDELINE = 70 (D1)	
37 SAMPLES	BDL	BDL	BDL			BDL	
1,4-DICHLOROBENZENE (UG/L)			DET'N LIMIT = 0.10			GUIDELINE = 5 (A1)	
37 SAMPLES	BDL	BDL	BDL			BDL	
1,3-DICHLOROBENZENE (UG/L)			DET'N LIMIT = 0.10			GUIDELINE = 3750 (03)	
37 SAMPLES	BDL	BDL	BDL			BDL	
1,2-DICHLOROBENZENE (UG/L)			DET'N LIMIT = 0.05			GUIDELINE = 200 (A1)	
37 SAMPLES	BDL	BDL	BDL			BDL	
ETHYLENE DIBROMIDE (UG/L)			DET'N LIMIT = 0.05			GUIDELINE = 50 (D1)	
37 SAMPLES	BDL	BDL	BDL			BDL	

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG MSS

DIST. SYSTEM RICHMOND ST FREE FLOW	DIST. SYSTEM RICHMOND ST STANDING	DIST. SYSTEM VENTNOR AVE FREE FLOW	DIST. SYSTEM VENTNOR AVE STANDING	DET'N LIMIT = 0.20	GUIDELINE = 350 (A1+)
BROMOFORM (UG/L)					
1991 JAN	200 <1	BDL			
1991 MAR	400 <1				
1991 MAY	400 <1	BDL			
1991 JUL	400 <1				
1991 SEP	400 <1				
1992 JAN	BDL				
1992 MAY	BDL				
1992 SEP	BDL				
1,1,2,2-TETCHLOROETHANE (UG/L)				DET'N LIMIT = 0.05	GUIDELINE = 0.17 (D4)
VINYL CHLORIDE (UG/L)		BDL		DET'N LIMIT = 0.100	GUIDELINE = 2 (D1)
C12-DICHLOROETHYLENE (UG/L)		BDL		DET'N LIMIT = 0.100	GUIDELINE = 70 (D1)
CHLOROBENZENE (UG/L)		BDL		DET'N LIMIT = 0.10	GUIDELINE = 1510 (D5)
1,4-DICHLOROBENZENE (UG/L)		BDL		DET'N LIMIT = 0.10	GUIDELINE = 5 (A1)
1,3-DICHLOROBENZENE (UG/L)		BDL		DET'N LIMIT = 0.10	GUIDELINE = 3750 (D5)
1,2-DICHLOROBENZENE (UG/L)		BDL		DET'N LIMIT = 0.05	GUIDELINE = 200 (A1)
ETHYLENE DIBROMIDE (UG/L)		BDL		DET'N LIMIT = 0.05	GUIDELINE = 50 (D1)
		BDL			

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 ANNHERSTBURG WSS

TREATMENT PLANT RAW	TREATMENT PLANT TREATED	DIST. SYSTEM		DIST. SYSTEM		DIST. SYSTEM	
		DALHOUSIE ST FREE FLOW	STANDING	PORT ST FREE FLOW	STANDING	PORT ST FREE FLOW	STANDING
VOLATILES TOTAL TRIHALOMETHANES (UG/L)							
				DET'N LIMIT = 0.50		GUIDELINE = 350 (A1)	
1991 JAN	BDL	22,850		12,400			
1991 MAR	BDL	24,950					
1991 MAY	BDL	32,500					
1991 JUL	BDL	20,200		17,650			
1991 SEP	BDL	20,100					
1991 NOV	BDL	16,200					
1992 JAN	BDL	19,550					
1992 MAR	BDL	31,650					
1992 MAY	BDL	23,500					
1992 JUL	BDL	26,850					
1992 SEP	BDL	47,250					
1992 NOV	BDL	20,250					
						13,750	
							23,300
							13,400

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

DIST. SYSTEM RICHMOND ST FREE FLOW	DIST. SYSTEM RICHMOND ST STANDING	DIST. SYSTEM VENTNOR AVE FREE FLOW		DIST. SYSTEM VENTNOR AVE STANDING	GUIDELINE = 350 (A1)
		VOLATILES	TOTAL TRICHLOROMETHANE (UG/L)		
1991 JAN	.	.	.	16.500	.
1991 MAR	15.400	.	.	.	.
1991 MAY	29.300	.	.	.	.
1991 JUL	.	.	.	17.550	.
1991 SEP	20.300	.	.	.	.
1992 JAN	10.900	.	.	.	.
1992 MAY	.	.	21.400	.	.
1992 SEP	.	.	39.400	.	.

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992 AMHERSTBURG WSS

TREATMENT PLANT RAW	TREATMENT PLANT TREATED	DIST. SYSTEM DALHOUSIE ST FREE FLOW	DIST. SYSTEM DALHOUSIE ST STANDING	DIST. SYSTEM FOR ST FREE FLOW	DIST. SYSTEM FOR ST STANDING	DIST. SYSTEM MEDITERRANEAN FREE FLOW	DIST. SYSTEM MEDITERRANEAN STANDING
RADIONUCLIDES							
COBALT 60 (Bq/L)				DET'N LIMIT = 0.70		GUIDELINE = N/A	
8 SAMPLES	BDL	BDL					
CESIUM 134 (Bq/L)				DET'N LIMIT = 0.70		GUIDELINE = N/A	
8 SAMPLES	BDL	BDL					
CESIUM 137 (Bq/L)				DET'N LIMIT = 0.70		GUIDELINE = 50 (A1)	
8 SAMPLES	BDL	BDL					
GROSS ALPHA COUNT (Bq/L)				DET'N LIMIT = 0.04		GUIDELINE = 0.55 (D1)	
1991 MAR	.050	BDL					
1991 SEP	.040	BDL					
1992 MAR	.130						
1992 SEP	.070	BDL					
GROSS BETA COUNT (Bq/L)				DET'N LIMIT = 0.04		GUIDELINE = N/A	
1991 MAR	.100	.080					
1991 SEP	.100	.110					
1992 MAR	.170	.100					
1992 SEP	.170	.080					
TRITIUM (Bq/L)				DET'N LIMIT = 7.00		GUIDELINE = N/A	
1991 MAR	BDL	10,000					
1991 SEP	BDL	BDL					
1992 MAR	BDL	BDL					
1992 SEP	BDL	BDL					
TOXINE 131 (Bq/L)				DET'N LIMIT = 0.70		GUIDELINE = 10 (A1)	
8 SAMPLES	BDL	BDL					

TABLE 5
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992

SCAN/PARAMETER	UNIT	DETECTION LIMIT	GUIDELINE
BACTERIOLOGICAL			
FECAL COLIFORM MEMBRANE FILTRATION	CT/100ML	0	0 (A1)
STANDARD PLATE COUNT MEMBRANE FILT.	CT/ML	0	500/ML (A3)
TOTAL COLIFORM BACKGROUND MF	CT/100ML	0	N/A
TOTAL COLIFORM MEMBRANE FILTRATION	CT/100ML	0	5/100ML (A1)
CHEMISTRY (FLD)			
FIELD COMBINED CHLORINE RESIDUAL	MG/L	0	N/A
FIELD TOTAL CHLORINE RESIDUAL	MG/L	0	N/A
FIELD FREE CHLORINE RESIDUAL	MG/L	0	N/A
FIELD PH	DMNSLESS	N/A	6.5-8.5 (A4)
FIELD TEMPERATURE	DEG.C	N/A	15.0 (A3)
FIELD TURBIDITY	FTU	N/A	1.0 (A1)
CHEMISTRY (LAB)			
ALKALINITY	MG/L	0.20	30-500 (A4)
AMMONIUM TOTAL	MG/L	0.002	0.05 (F2)
CALCIUM	MG/L	0.20	100.0 (F2)
CHLORIDE	MG/L	0.20	250.0 (A3)
COLOUR	TCU	0.50	5.0 (A3)
CONDUCTIVITY	UMHO/CM	1.00	400.0 (F2)
CYANIDE	MG/L	0.001	0.2 (A1)
DISSOLVED ORGANIC CARBON	MG/L	0.10	5.0 (A3)
FLUORIDE	MG/L	0.01	1.5* (A1)
HARDNESS	MG/L	0.50	80-100 (A4)
IONCAL	DMNSLESS	N/A	N/A
LANGELIERS INDEX	DMNSLESS	N/A	N/A
MAGNESIUM	MG/L	0.10	30.0 (F2)
NITRATES (TOTAL)	MG/L	0.005	10.0 (A1)
NITRITE	MG/L	0.001	1.0 (A1)
NITROGEN TOTAL KJELDAHL	MG/L	0.02	N/A
PH	DMNSLESS	N/A	6.5-8.5 (A4)
PHOSPHORUS FIL REACT	MG/L	0.0005	N/A
PHOSPHORUS TOTAL	MG/L	0.002	0.4 (F2)
POTASSIUM	MG/L	0.010	10.0 (F2)
RESIDUE FILTRATE (CALCULATED TDS)	MG/L	N/A	500.0 (A3)
SODIUM	MG/L	0.20	200.0 (A4)
SULPHATE	MG/L	0.20	500.0 (A4)
TURBIDITY	FTU	0.05	1.0 (A1)
* The Maximum Acceptable Concentration (MAC) for <u>naturally occurring fluoride</u> in drinking water is 2.4 mg/L.			
CHLOROAROMATICS			
1,2,3-TRICHLOROBENZENE	NG/L	5.0	N/A
1,2,3,4-TETRACHLOROBENZENE	NG/L	1.0	N/A
1,2,3,5-TETRACHLOROBENZENE	NG/L	1.0	N/A
1,2,4-TRICHLOROBENZENE	NG/L	5.0	10000 (I)
1,2,4,5-TETRACHLOROBENZENE	NG/L	1.0	38000 (D4)
1,3,5-TRICHLOROBENZENE	NG/L	5.0	N/A
2,3,6-TRICHLOROTOLUENE	NG/L	5.0	N/A
2,4,5-TRICHLOROTOLUENE	NG/L	5.0	N/A
2,6,6-TRICHLOROTOLUENE	NG/L	5.0	N/A
HEXACHLOROBENZENE (HCB)	NG/L	1.0	10 (C1)
HEXACHLOROBUTADIENE	NG/L	1.0	450 (D4)
HEXACHLOROETHANE	NG/L	1.0	1900 (D4)
OCTACHLOROSTYRENE	NG/L	1.0	N/A
PENTACHLOROBENZENE	NG/L	1.0	74000 (D4)
CHLOROPHENOLS			
2,3,4-TRICHLOROPHENOL	NG/L	100.0	N/A
2,3,4,5-TETRACHLOROPHENOL	NG/L	20.0	N/A
2,3,5,6-TETRACHLOROPHENOL	NG/L	10.0	N/A

TABLE 5
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992

SCAN/PARAMETER	UNIT	DETECTION LIMIT	GUIDELINE
2,4,5-TRICHLOROPHENOL	NG/L	100.0	2600000 (D4)
2,4,6-TRICHLOROPHENOL	NG/L	20.0	5000 (A1)
PENTACHLOROPHENOL	NG/L	10.0	60000 (A1)
METALS			
ALUMINUM	UG/L	0.10	100 (A4)
ANTIMONY	UG/L	0.05	146 (D4)
ARSENIC	UG/L	0.10	25 (A1)
BARIUM	UG/L	0.05	1000 (A2)
BERYLLIUM	UG/L	0.05	6800 (D4)
BORON	UG/L	2.00	5000 (A1)
CADMUM	UG/L	0.05	5 (A1)
CHROMIUM	UG/L	0.50	50 (A1)
COBALT	UG/L	0.02	N/A
COPPER	UG/L	0.50	1000 (A3)
IRON	UG/L	6.00	300 (A3)
LEAD	UG/L	0.05	10 (A1)
MANGANESE	UG/L	0.05	50 (A3)
MERCURY	UG/L	0.02	1 (A1)
MOLYBDENUM	UG/L	0.05	N/A
NICKEL	UG/L	0.20	350 (D3)
SELENIUM	UG/L	1.00	10 (A1)
SILVER	UG/L	0.05	N/A
STRONTIUM	UG/L	0.10	N/A
THALLIUM	UG/L	0.05	13 (D4)
TITANIUM	UG/L	0.50	N/A
URANIUM	UG/L	0.05	100 (A1)
VANADIUM	UG/L	0.05	N/A
ZINC	UG/L	0.20	5000 (A3)
POLYNUCLEAR AROMATIC HYDROCARBONS			
ANTHRACENE	NG/L	1.0	N/A
BENZO(A) ANTHRACENE	NG/L	20.0	N/A
BENZO(A) PYRENE	NG/L	5.0	10 (A1)
BENZO(B) CHRYSENE	NG/L	2.0	N/A
BENZO(B) FLUORANTHENE	NG/L	10.0	N/A
BENZO(E) PYRENE	NG/L	50.0	N/A
BENZO(G,H,I) PERYLENE	NG/L	20.0	N/A
BENZO(K) FLUORANTHENE	NG/L	1.0	N/A
CHRYSENE	NG/L	50.0	N/A
CORONENE	NG/L	10.0	N/A
DIBENZO(A,H) ANTHRACENE	NG/L	10.0	N/A
DIMETHYL BENZO(A) ANTHRACENE	NG/L	5.0	N/A
FLUORANTHENE	NG/L	20.0	42000 (D4)
INDENO(1,2,3-C,D) PYRENE	NG/L	20.0	N/A
PERYLENE	NG/L	10.0	N/A
PHENANTHRENE	NG/L	10.0	N/A
PYRENE	NG/L	20.0	N/A
PESTICIDES & PCB			
ALACHLOR (LASSO)	NG/L	500.0	5000 (A2)
ALDRIN	NG/L	1.0	700 (A1)
ALPHA HEXACHLOROCYCLOHEXANE (BHC)	NG/L	1.0	700 (G)
ALPHA CHLORDANE	NG/L	2.0	7000 (A1)
AMETRINE	NG/L	50.0	300000 (D3)
ATRATONE	NG/L	50.0	N/A
ATRAZINE	NG/L	50.0	60000 (A2)
DESETHYL ATRAZINE	NG/L	200.0	60000 (A2)
BETA HEXACHLOROCYCLOHEXANE (BHC)	NG/L	1.0	300 (G)
CYANAZINE (BLADEX)	NG/L	100.0	10000 (A2)
DIELDRIN	NG/L	2.0	700 (A1)
ENDOSULFAN 1 (THIOODAN I)	NG/L	2.0	74000 (D4)
ENDOSULFAN 2 (THIOODAN II)	NG/L	5.0	74000 (D4)
ENDOSULFAN SULPHATE (THIOODAN SULPHATE)	NG/L	5.0	N/A

TABLE 5
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992

SCAN/PARAMETER	UNIT	DETECTION LIMIT	GUIDELINE
ENDRIN	NG/L	5.0	1600 (D3)
GAMMA CHLORDANE	NG/L	2.0	7000 (A1)
HEPTACHLOR	NG/L	1.0	3000 (A1)
HEPTACHLOR EPOXIDE	NG/L	1.0	3000 (A1)
HEXAACHLOROCYCLOPENTADIENE	NG/L	5.0	206000 (D4)
LINDANE (GAMMA BHC)	NG/L	1.0	4000 (A1)
METHOXYCHLOR	NG/L	5.0	900000 (A1)
METOLACHLOR	NG/L	500.0	50000 (A2)
METRIBUZIN (SENCOR)	NG/L	100.0	80000 (A1)
MIREX	NG/L	5.0	N/A
P,P-DDD	NG/L	5.0	30000 (A1)
O,P-DDT	NG/L	5.0	30000 (A1)
P,P-DDT	NG/L	5.0	30000 (A1)
P,P-DDE	NG/L	1.0	30000 (A1)
OXYCHLORDANE	NG/L	2.0	N/A
PCB	NG/L	20.0	3000 (A2)
PROMETONE	NG/L	50.0	52500 (D3)
PROMTRYNE	NG/L	50.0	1000 (A2)
PROPAZINE	NG/L	50.0	700000 (D3)
SIMAZINE	NG/L	50.0	10000 (A2)
DESETHYL SIMAZINE	NG/L	200.0	10000 (A2)
TOXAPHENE	NG/L	500.0	5000 (A1)
PHENOLICS			
PHENOLICS (UNFILTERED REACTIVE)	UG/L	0.2	N/A
SPECIFIC PESTICIDES			
2,4,D PROPONIC ACID	NG/L	100.0	N/A
2,4,5-TRICHLOROPHOENOXY ACETIC ACID	NG/L	50.0	280000 (A1)
2,4-DICHLOROBUTYRIC ACID (2,4-D)	NG/L	100.0	100000 (A1)
2,4-DICHLOROPHORPHENOXYBUTYRIC ACID (2,4-DB)	NG/L	200.0	N/A
2,4,5-TP (SILVEX)	NG/L	20.0	10000 (A1)
BUTYLATE (SUTAN)	NG/L	2000.0	245000 (D3)
CARBARYL (SEVIN)	NG/L	200.0	90000 (A1)
CARBOFURAN	NG/L	2000.0	90000 (A1)
CHLORPROPHAM (CIPC)	NG/L	2000.0	350000 (G)
CHLORPYRIFOS (DURSBAN)	NG/L	20.0	N/A
DIALLATE	NG/L	2000.0	N/A
DIAZINON	NG/L	20.0	20000 (A1)
DICAMBA	NG/L	50.0	120000 (A1)
DICHLOROVOS	NG/L	20.0	N/A
EPTAM	NG/L	2000.0	N/A
ETHION	NG/L	20.0	35000 (G)
IPC	NG/L	2000.0	N/A
MALATHION	NG/L	20.0	190000 (A1)
METHYL PARATHION	NG/L	50.0	9000 (D3)
METHYLTRITHION	NG/L	20.0	N/A
MEVINPHOS	NG/L	20.0	N/A
PARATHION	NG/L	20.0	50000 (A1)
PHORATE (THIMET)	NG/L	20.0	2000 (A2)
PICHLORAM	NG/L	100.0	190000 (A2)
PROPOXUR (BAYGON)	NG/L	2000.0	140000 (D3)
RELDAN	NG/L	20.0	N/A
RONNEL	NG/L	20.0	N/A
VOLATILES			
1,1-DICHLOROETHANE	UG/L	0.10	N/A
1,1-DICHLOROETHYLENE	UG/L	0.10	7 (D1)
1,2-DICHLOROBENZENE	UG/L	0.05	200 (A1)
1,2-DICHLOROETHANE	UG/L	0.05	5 (A1)
1,2-DICHLOROPROPANE	UG/L	0.05	5 (D1)
1,3-DICHLOROBENZENE	UG/L	0.10	3750 (D3)
1,4-DICHLOROBENZENE	UG/L	0.10	5 (A1)
1,1,1-TRICHLOROETHANE	UG/L	0.02	200 (D1)
1,1,2-TRICHLOROETHANE	UG/L	0.05	0.6 (D4)
1,1,2-TETRACHLOROETHANE	UG/L	0.05	0.17 (D4)

TABLE 5
DRINKING WATER SURVEILLANCE PROGRAM 1991 AND 1992

SCAN/PARAMETER	UNIT	DETECTION LIMIT	GUIDELINE
BENZENE	UG/L	0.05	5 (A1)
BROMOFORM	UG/L	0.20	350 (A1+)
CARBON TETRACHLORIDE	UG/L	0.20	5 (A1)
CHLOROBENZENE	UG/L	0.10	1510 (D3)
CHLORODIBROMOMETHANE	UG/L	0.10	350 (A1+)
CHLOROFORM	UG/L	0.10	350 (A1+)
CIS 1,2-DICHLOROETHYLENE	UG/L	0.10	70 (D1)
DICHLOROBROMOMETHANE	UG/L	0.05	350 (A1+)
ETHYLENE DIBROMIDE	UG/L	0.05	50 (D1)
ETHYLBENZENE	UG/L	0.05	2.4 (A3)
M-XYLENE	UG/L	0.10	300 (A3*)
METHYLENE CHLORIDE	UG/L	0.50	50 (A1)
O-XYLENE	UG/L	0.05	300 (A3*)
P-XYLENE	UG/L	0.10	300 (A3*)
STYRENE	UG/L	0.05	100 (D1)
TETRACHLOROETHYLENE	UG/L	0.05	65 (A5)
TRANS 1,2-DICHLOROETHYLENE	UG/L	0.10	70 (D1)
TOLUENE	UG/L	0.05	24 (A3)
TOTAL TRIHALOMETHANES	UG/L	0.50	350 (A1)
TRICHLOROETHYLENE	UG/L	0.10	50 (A1)
VINYL CHLORIDE	UG/L	0.10	2 (D1)

RADIONUCLIDES

TRITIUM	BQ/L	7.0	40000 (A1)
GROSS ALPHA COUNT	BQ/L	0.04	0.55# (D1)
GROSS BETA COUNT	BQ/L	0.04	N/A
COBALT 60	BQ/L	0.70	N/A
CESIUM 134	BQ/L	0.70	N/A
CESIUM 137	BQ/L	0.70	50 (A1)
IODINE 131	BQ/L	0.70	10 (A1)

Equal to 15.0 Picocuries/litre

DRINKING WATER SURVEILLANCE PROGRAM
PROGRAM DESCRIPTION

The Drinking Water Surveillance Program (DWSP) for Ontario monitors drinking water quality at municipal water supply systems. The DWSP Database Management System provides a computerized drinking water quality information system for the supplies monitored. The objectives of the program are to provide:

- immediate, reliable, current information on drinking water quality;
- a flagging mechanism for guideline exceedance;
- a definition of contaminant levels and trends;
- a comprehensive background for remedial action;
- a framework for assessment of new contaminants; and
- an indication of treatment efficiency of plant processes.

PROGRAM

The DWSP officially began in April 1986 and is designed to eventually include all municipal water supplies in Ontario. In 1992, 109 systems were being monitored. Water supply locations have been prioritized for surveillance based primarily on criteria such as population density, probability of contamination and geographical location.

An ongoing assessment of future monitoring requirements at each location will be made. Monitoring will continue at the initial locations at an appropriate level and further locations will be phased into the program as resources permit.

A major goal of the program is to collect valid water quality data in context with plant operational characteristics at the time of sampling. As soon as sufficient data have been accumulated and analyzed, both the frequency of sampling and the range of parameters may be adjusted accordingly.

Assessments are carried out at all locations prior to initial sampling, in order to acquire complete plant process and distribution system details and to designate (and retrofit if necessary) all sampling systems and locations. This ensures that the sampled water is a reflection of the water itself.

Samples are taken of raw (ambient water) and treated water at the treatment plant and of consumer's tap water in the distribution system. In order to determine possible effects of distribution on water quality, both standing and free flow water in old and new sections of the distribution system are sampled. Sampling is carried out by operational personnel who have been trained in applicable procedures.

Comprehensive standardized procedures and field test kits are supplied to sampling personnel. This ensures that samples are taken and handled according to standard protocols and that field testing will supply reliable data. All field and laboratory analyses are carried out using "approved documented procedures". Most laboratory analyses are carried out by the Ministry of Environment and Energy (MOEE), Laboratory Services Branch. Radionuclides are analyzed by the Ministry of Labour.

DATA REPORTING MECHANISM

When the analytical results are transferred from the MOEE laboratory into the DWSP system, printouts of the completed analyses are sent to the MOEE District Officer, the appropriate operational staff and are also retained by the DWSP unit.

PROGRAM INPUTS AND OUTPUTS

There are four major inputs and four major outputs in the program.

Program Input - Plant and Distribution System Description

The system description includes plant specific non-analytical information acquired through a questionnaire and an initial plant visit. During the initial assessment of the plant and distribution system, questionnaire content is verified and missing information added. It is intended that all data be kept current with scheduled annual updates.

The Plant and Distribution System Description consists of the following seven components:

1. PROCESS COMPONENT INVENTORY

All physical and chemical processes to which the water is subjected, from the intake pipe to the consumers' tap (where possible), are documented. These include: process type, general description of physical structures, material types, sizes, and retention time for each process within the plant. The processes may be as simple as transmission or as complex as carbon adsorption.

2. TREATMENT CHEMICALS

Chemicals used in the treatment processes, their function, application point, supplier and brand-name are recorded. Chemical dosages applied on the day of sampling are recorded in DWSP.

3. PROCESS CONTROL MEASUREMENTS

Documentation of in-plant monitoring of process parameters (eg. turbidity, chlorine residuals, pH, aluminum residuals) including methods used, monitoring locations and frequency is contained in this section. Except for the recorded Field Data, in-plant monitoring results are not retained in DWSP but are retained by the water treatment plant personnel.

4. DESIGN FLOW AND RETENTION TIME

Hydraulic capacity, designed and actual, is noted here. Retention time (the time that a block of water is retained in the plant) is also noted. Maximum, minimum and average flow, as well as a record of the flow rate on the day of sampling, are recorded in DWSP.

5. DISTRIBUTION SYSTEM DESCRIPTION

This area includes the storage and transmission characteristics of the distribution system after the water leaves the plant.

6. SAMPLING SYSTEM

Each plant is assessed for its adequacy in terms of the sampling of bacteriological, organic and inorganic parameters. Prime considerations in the assessment and design of the sampling system are:

i/ the sample is an accurate representation of the actual water condition, eg. raw water has had no chemical treatment;

ii/ the water being sampled is not being modified by the sampling system;

iii/ the sample tap must be in a clean area of the plant, preferably a lab area; and

iv/ the sample lines must be organically inert (no plastic, ideally stainless steel).

It is imperative that the sampled water be a reflection not of the sampling system but of the water itself.

The sampling system documentation includes: origin of the water; date sampling was initiated; size, length and material type (intake, discharge and tap); pump characteristics (model, type, capacity); and flow rate.

7. PERSONNEL

This section contains the names, addresses and phone numbers of current plant management and operational staff, distribution system management and operational staff, Medical Officer of Health and appropriate MOEE personnel associated with the plant.

Program Input - Field Data

The second major input to DWSP is field data. Field data is collected at the plant and from the distribution system sites on the day of sampling. Field data consists of general operating conditions and the results of testing for field parameters. General operating conditions include chemicals used, dosages, flow and retention time on the day of sampling, as well as, monthly maximum, minimum and average flows. Field parameters include turbidity, chlorine residuals (free, combined and total), temperature and pH. These parameters are analyzed according to standardized DWSP protocols to allow for interplant comparison.

Program Input - Laboratory Analytical Data

The third major input to DWSP is Laboratory Analytical Data. Samples gathered from the raw, treated and distribution sampling sites are analyzed for the presence of approximately 180 parameters at a frequency of two to twelve times per year. Sixty-five percent of the parameters are organic. Parameters measured may have health or aesthetic implications when present in drinking water. Many of the parameters may be used in the treatment process or may be treatment by-products. Due to the nature of certain analytical instruments, parameters may be measured in a "scan" producing some results for parameters that are not on the DWSP priority list, but which may be of interest. The majority of parameters are measured on a routine basis. Those that are technically more difficult and/or costly to analyze, however, are done less frequently. These include Specific Pesticides and Chlorophenols.

Although the parameter list is extensive, additional parameters with the potential to cause health or aesthetic related problems may be added provided reliable analytical and sampling methods exist.

All laboratory generated data is derived from standardized, documented analytical protocols. The analytical method is an integral part of the data and as methods change, notation will be made and comparison data documented.

Program Input - Parameter Reference Information

The fourth major input to DWSP is Parameter Reference Information. This is a catalogue of information for each substance analyzed on DWSP. It includes parameter name and aliases, physical and chemical properties, basic toxicology, world-wide health limits, treatment methods and uses. The Parameter Reference Information is computerized and can be accessed through the Query function of the DWSP database. An example is shown in figure 1.

Program output - Query

All DWSP information is easily accessed through the Query function, therefore, anything from addresses of plant personnel to complete water quality information for a plant's water supply is instantly available. The DWSP computer system makes relatively complex inquiries manageable. A personal password allowing access into the DWSP query mode in all MOEE offices is being developed by the DWSP group.

Program Output - Action Alerts

Drinking Water quality in Ontario is evaluated against provincial objectives as outlined in the Ontario Drinking Water Objectives publication. Should the reported level of a substance in treated water exceed the Ontario Drinking Water Objective, an "Action Alert" requiring resampling and confirmation is issued. This assures that operational staff, health authorities and the public are notified as soon as possible of the confirmation of an exceedance and remedial action taken. This report supplies a history of the occurrence of past exceedances at the plant plus a historical summary on the parameter of concern.

In the absence of Ontario Drinking Water Objectives, guidelines/limits from other agencies are used. The Parameter Listing System, published by MOEE (ISBN 0-7729-4461-X), catalogues and keeps current guidelines for 650 parameters from agencies throughout the world. If these guidelines are exceeded, the results are flagged and evaluated by DWSP personnel. An "Action Alert" will be issued if warranted.

Program Output - Report Generation

Custom reports can be generated from DWSP to meet MOEE Regional needs and to respond to public requests.

Program Output - Annual Reports

It is the practice of DWSP to produce an annual report containing analytical data along with companion plant information.

FIG.1

PARAMETER REFERENCE INFORMATION

NAME: BENZENE

CAS#: 71-43-2

MOLECULAR FORMULAE: C₆H₆

DETECTION LIMIT: (FOR METHOD POCODO) 0.05 µg/L

SYNOMYS: BENZOL; BENZOLE; COAL NAPHTHA; CARBON OIL (27)
CYCLOHEXATRIENE (41)

CHARACTERISTICS: COLOURLESS TO LIGHT-YELLOW, MOBILE, NONPOLAR LIQUID, OF HIGHLY REFRACTIVE NATURE, AROMATIC ODOUR; VAPOURS BURN WITH SMOKING FLAME (30)

PROPERTIES: SOLUBILITY IN WATER: 1780-1800 mg/L AT 25C (41)
THRESHOLD ODOUR: 0.5 - 10 PPM IN WATER
THRESHOLD TASTE: 0.5 mg/L IN WATER (39)
ENVIRONMENTAL FATE: MAY BIOACCUMULATE IN LIVING ORGANISMS AND APPEARS TO ACCUMULATE IN ANIMAL TISSUES THAT EXHIBIT A HIGH LIPID CONTENT OR REPRESENT MAJOR METABOLIC SITES, SUCH AS LIVER OR BRAIN; SMALL QUANTITIES EVAPORATE FROM SOILS OR ARE DEGRADED RATHER QUICKLY (80)

SOURCES: COMMERCIAL: PETROLEUM REFINING; SOLVENT RECOVERY; COAL TAR DISTILLATION (39); FOOD PROCESSING AND TANNING INDUSTRIES; COMBUSTION OF CAR EXHAUST.
ENVIRONMENTAL: POSSIBLE SOURCE IS RUNOFF.

USES: DETERGENTS; NYLON; INTERMEDIATE IN PRODUCTION OF OTHER COMPOUNDS, SUCH AS PESTICIDES; SOLVENT FOR EXTRACTION AND RECTIFICATION IN RUBBER INDUSTRY; DEGREASING AND CLEANSING AGENT; GASOLINE.

REMOVAL: THE FOLLOWING PROCESSES HAVE BEEN SUCCESSFUL IN REMOVING BENZENE FROM WASTEWATER: GAC ADSORPTION, PRECIPITATION WITH ALUM AND SUBSEQUENT REMOVAL VIA SEDIMENTATION, COAGULATION AND FLOCCULATION, SOLVENT EXTRACTION, OXIDATION

ADDITIONAL PROPERTIES: MOLECULAR WEIGHT: 78.12
MELTING POINT: 5.5°C (27)
BOILING POINT: 80.1°C (27)
SPECIFIC GRAVITY: 0.8790 AT 20°C (27)
VAPOUR PRESSURE: 100 MM AT 26.1°C (27)
HENRY'S LAW CONSTANT: 0.00555 ATM-M3/MOLE (41)
LOG OCT./WATER PARTITON COEFFICIENT: 1.95 TO 2.13. (39)
CARBON ADSORPTION: K=1.0; 1/N=1.6; R=0.97; PH=5.3 (41)
SEDIMENT/WATER PARTITION COEFFICIENT: NO DATA

DWSP SAMPLING GUIDELINE

i) Raw and Treated at Plant

General Chemistry	-500 mL plastic bottle (PET 500) -rinse bottle and cap with sample water three times -fill to 2 cm from top
Bacteriological	-220 mL plastic bottle with white seal on cap -do <u>not</u> rinse bottle, preservative has been added -avoid touching bottle neck or inside of cap -fill to top of red label as marked
Metals	-500 mL plastic bottle (PET 500) -rinse bottle and cap three times -fill to 2 cm from top -add 10 drops nitric acid (HNO ₃) (Caution: HNO ₃ is corrosive)
Volatiles (duplicates) (OPOPUP)	-45 mL glass vial with septum (teflon side must be in contact with sample) -do <u>not</u> rinse bottle -fill bottle completely without bubbles
Organics (OWOC), (OWTRI)	-1 L amber glass bottle per scan -do <u>not</u> rinse bottle -fill to 2 cm from top
Specific Pesticides (OWCP), (PEOP), (PECAR)	-as per Organics -three extra bottles must be filled
Polyaromatic hydrocarbons (OAPAHX)	-1 L amber glass bottle per scan -do <u>not</u> rinse bottle -fill to 2 cm from top -add 25 drops of sodium thiosulphate
Cyanide (Treated only)	-500 mL plastic bottle (PET 500) -rinse bottle and cap three times -fill to 2 cm from top -add 10 drops sodium hydroxide (NaOH) (Caution: NaOH is corrosive)
Mercury	-250 mL glass bottle -rinse bottle and cap three times -fill to top of label -add 20 drops each nitric acid (HNO ₃) and potassium dichromate (K ₂ Cr ₂ O ₇) (Caution: HNO ₃ &K ₂ Cr ₂ O ₇ are corrosive)

Phenols	-250 mL glass bottle -do <u>not</u> rinse bottle, preservative has been added -fill to top of label
Radionuclides (as scheduled)	-4 L plastic jug -do <u>not</u> rinse, carrier added -fill to 5 cm from top
Organic Characterization (GC/MS - once per year) (PBVOL), (PBEXT)	-1 L amber glass bottle; instructions as per organic -250 mL glass bottle -do <u>not</u> rinse bottle -fill completely without bubbles

Steps:

1. Let sampling water tap run for an adequate time to clear the sample line.
2. Record time of day on submission sheet.
3. Record temperature on submission sheet.
4. Fill up all bottles as per instructions.
5. Record chlorine residuals (free, combined and total for treated water only), turbidity and pH on submission sheet.
6. No smoking in area of sample location.

ii) Distribution Samples (standing water)

General Chemistry	-500 mL plastic bottle (PET 500) -rinse bottle and cap with sample water three times -fill to 2 cm from top
Metals	-500 mL plastic bottle (PET 500) -rinse bottle and cap three times -fill to 2 cm from top -add 10 drops nitric acid (HNO ₃) (Caution: HNO₃ is corrosive)

Steps:

1. Record time of day on submission sheet.
2. Place bucket under tap and open cold water.
3. Fill to predetermined volume.
4. After mixing the water, record the temperature on the submission sheet.

5. Fill general chemistry and metals bottles.

6. Record chlorine residuals (free, combined and total), turbidity and pH on submission sheet.

iii) Distribution Samples (free flow)

General Chemistry

-500 mL plastic bottle (PET 500)
-rinse bottle and cap with sample water three times
-fill to 2 cm from top

Bacteriological

-250 mL plastic bottle with white seal on cap
-do not rinse bottle, preservative has been added
-avoid touching bottle neck or inside of cap
-fill to top of red label as marked

Metals

-500 mL plastic bottle (PET 500)
-rinse bottle and cap three times
-fill to 2 cm from top
-add 10 drops nitric acid HNO₃
(Caution: HNO₃ is corrosive)

**Volatiles (duplicate)
(OPOPUP)**

-45 mL glass vial with septum
(teflon side must be in contact with sample)
-do not rinse bottle, preservative has been added
-fill bottle completely without bubbles

**Organics
(OWOC)**

-1 L amber glass bottle per scan
-do not rinse bottle
-fill to 2 cm from top

**Polyaromatic Hydrocarbons
(OAPAHX)**

-1 L amber glass bottle per scan
-do not rinse bottle
-fill to 2 cm from top
-add 25 drops of sodium thiosulphate

Steps:

1. Record time of day on submission sheet.

2. Let cold water flow for five minutes.

3. Record temperature on submission sheet.

4. Fill all bottles as per instructions.

5. Record chlorine residuals (free, combined and total), turbidity and pH on submission sheet.



